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AND THEIR IMPLICATIONS FOR
UNION WAGE DETERMINATION

by

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Board of Governors of the Federal Reserve System

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ABSTRACT

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ABSTRACT: An unprecedented number of union members have accepted contract modifications that freeze or reduce wages or alter work rules since 1979. The paper chronicles this extraordinary period for union negotiations, assesses the causes for the departures from traditional union wage-setting practices, and evaluates the impact of union concessions on aggregate wage inflation. Among the findings of the paper are that concessions were primarily the result of long-term structural problems facing many unionized industries including intensified competition in product markets due to deregulation or from foreign producers and the substantial widening of union-nonunion wage differentials that took place during the 1970s. Even though union concessions appeared to have a small influence on wage decisions outside of affected industries, their direct effect on aggregate wage inflation explains a substantial portion of the overpredictions of standard wage equations in recent years. The final section discusses the likelihood that recent trends in collective bargaining will persist and concludes that current structural problems will lead to a sustained moderation in the rise of union labor costs during the years ahead.

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I. Introduction

Since 1979, at least 3 million union members--or one out of every six in the U.S. workforce--have accepted contract modifications that freeze or reduce wages and fringe benefits or alter work rules. Initially, concession bargaining, as these contract modifications often are called, was confined to a few financially troubled firms. But as the period of economic stagnation lengthened and unemployment climbed to postwar record levels, union contract concessions occurred with increasing frequency and often were negotiated on an industry-wide basis. By 1982, wage freezes and pay cuts had become as commonplace as wage increases in major collective bargaining settlements. Moreover, despite the rebound in economic activity and profits since late 1982, managements have continued to press for cost-reduction measures, and concessions still are a prominent feature of union negotiations in mid-1984.

These developments contributed to a general impression that wage settlements--both union and nonunion--had responded more to economic pressures during the past two years than was implied by previous behavior. As recently as mid-1981, wage increases averaged close to double-digit levels, whereas just three years later wage adjustments had dropped on balance to about 4 percent--their smallest rate of increase since the mid-1960's. The deceleration in union settlements has been even more dramatic, largely because of extensive concessions. It has long been recognized that rising unemployment and declining inflation moderate wage increases. But given these market conditions, most traditional models of wage behavior still would overpredict wage trends at least after 1982.

It might be argued that the spate of highly publicized union concessions influenced other wage decisions. Such spillovers could result in wage settlements that temporarily were below what standard wage equations would predict. Or it is possible that fundamental changes in the wage determination process have taken place that would make wage inflation more sensitive to business cycle conditions. Whether recent concessions are transitory aberrations or long-lasting changes in wage practices may have important implications for wage inflation during the remainder of the 1980s.

In summarizing recent concessions, the discussion will focus on three questions. First, what factors contributed to the recent outbreak of union concessions? Similar concessions occurred with some regularity in the past, but the recent episode clearly can be distinguished by the unprecedented number of workers and industries involved. Exceptionally large and prolonged declines in output and employment precipitated unscheduled reopenings and contract modifications. That adversity was not solely cyclical; it also stemmed from longer-term problems such as the secular rise in the relative wage of union workers and intensified competition from domestic nonunion or foreign firms, or as a result of relaxing entry barriers under deregulation.

Second, to what extent did wage concessions account for the unusually sharp reduction in wage inflation during the past two years? Under some conservative assumptions, wage inflation would have been at least one-half percentage point higher in 1983 and 1984 in the absence of concessions. This estimate could be substantially larger if concessions influenced other wage decisions. For the most part, however, the evidence suggests that

spillovers outside of traditional channels have not been widespread. In industries that were less severely affected by the recession, wage changes generally have shown "normal" cyclical responses to rising unemployment and lower inflation.

Third, what aspects of recent concessions may reflect permanent changes in union wage determination and what aspects may prove transitory? Unions have shown no tendency to abandon the principal features of traditional contracts--multiyear settlements and escalator clauses. However, there has been a willingness to experiment with gain-sharing and various types of cooperative labor-management programs to enhance productivity. These innovations could endure if competitive pressures persist.

II. Union Wage Practices and Disinflation

By the 1970s, the basic insitutional features of union wage determination were well-established. Multiyear contracts had become the predominant format for labor negotiations,[1] and the number of formal cost-of-living adjustment (COLA) provisions expanded substantially early in the decade to a point where a majority of union workers were covered by escalator clauses. Prospective wage settlements were fairly predictable as many large unions adhered to a policy of negotiating identical fixed increases in each contract year--often referred to as the annual improvement factor--plus COLA. Annual improvement factors originally were perceived as paralleling productivity trends when they were established during the 1950s and 1960s, but by the 1970s they had

1. In the late 1970s, roughly 90 percent of workers in major collective bargaining units had contracts lasting longer than one year, and the average duration of major agreements exceeded 30 months.

become more a matter of custom than a projection of current or future productivity performance. To the extent that COLA formulas did not pass through the full increase in prices into wage increases, first-year wage increases in succeeding contracts were adjusted upwards to make up the difference--a so-called "catchup" adjustment. In contracts without escalator provisions, negotiators had to build into future adjustments their expectations for inflation over the course of the contract or include contingency clauses for reopening the agreement.

These wage-setting practices often were cited as a major factor underlying the persistence of wage inflation in the United States. In particular, three-year contracts with staggered expiration dates, often buttressed by escalator clauses, were viewed as promulgating inertia in the wage determination process, thereby limiting the response of inflation to aggregate demand policies designed to reduce inflation. Some observers extended the inertia argument beyond union agreements by noting contract-like regularities in nonunion wage practices.

The rationale for attributing such a central role in the inflation adjustment process to overlapping, multiyear contracts rests on the presumed importance of wage comparisons. In this view, workers' perceptions of what is an equitable wage have a major influence on wage-setting practices. Notions of equity might be based on comparisons with wages paid to other similar workers or on expectations of real wage gains that were ingrained by past experience.[2] Given workers' perceptions of equity, union leaders are

2. Evidence of "pattern bargaining", which is discussed extensively in the labor economics literature, is used to support the notion that wage comparisons are a major concern in union wage negotiations. The role of equity considerations in wage determination is stressed in James Annable, The Price of Industrial Labor, D.C. Heath, 1984.

under considerable pressure to emulate other settlements or to retain traditional guaranteed wage increases in escalated contracts; otherwise, they risk a contract rejection by their memberships. Thus, key contracts reached in a bargaining round often appeared to set the tone for subsequent settlements, especially in related industries, even if economic conditions had changed in the interim.

Factors other than wage comparisions also influence union settlements. Namely, negotiators ultimately must take into account current and prospective macroeconomic conditions as well as longer-run trends in their industries. Evidence from the postwar period prior to the 1980s indicated as asymetric sensitivity to macroeconomic conditions: union wages were highly responsive to inflation but relatively insensitive to slack demand.

A closer look at the traditional features of multi-year contracts discussed above reveals why union wages showed a weak cyclical response. First-year negotiated wage changes under new settlements, which dictate only a portion of all union wage adjustments in any given year, are fairly sensitive to unemployment. But that cyclical responsiveness is overwhelmed by the rigidities introduced by fixed increases that were deferred under contracts negotiated in previous years when economic conditions may have been decidely different. When cyclical downturns are preceded or accompanied by a surge in inflation, "catchup" wage increases in the first contract year can mute for some time any moderation that might come from rising employment. Once inflation begins to recede, pressures for "catchup" increases subside and may remain minimal well into the subsequent recovery. Meanwhile, COLA clauses make union wages highly responsive to price changes. Escalators generate far less

wage inertia than deferred or even "catchup" adjustments because many COLA formulas call for frequent reviews.[3] To the extent that policies designed to curb inflation in fact do so, COLAs also moderate with only a brief delay.

This characterization has been altered in the 1980s. To illustrate the changes that have occurred, table 1 and chart 1 display data on the components of union wage changes--first-year adjustments, deferred adjustments, and COLAs--from the BLS series on effective union wage adjustments. For most of the period since 1968 the data closely follow the traditional story described above. First-year adjustments under new settlements show the greatest cyclical variance, while there is relatively little variance in the deferred component.[4] The inertia generated by deferred increases under prior settlements can be seen most vividly in the years when total effective wage change decelerated substantially, as it did in 1972 and 1982; in those years, deferred increases represented an unusually large proportion of average union wage change. The contribution of COLAs rose dramatically during the 1970s--from 5 percent in the late 1960s to about one-third of wage changes received by union workers in 1977-78. Part of that secular trend was attributable to a higher average inflation rate during the 1970s, but more importantly COLA provisions were added to numerous contracts early in the decade extending COLA coverage among large contracts from about 25 percent to around 60 percent.

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3. More than half of workers covered by formal escalator clauses in major agreements receive adjustments quarterly or semiannually.
4. The collective bargaining calender also influences the components of effective wage change in table 1, particularly the contribution of new settlements. Until recently, bargaining activity followed a three-year cycle with two years of heavy bargaining activity and then a year of relatively light bargaining. In light bargaining years, the paucity of new settlements reduces that component, other things equal.

Table 1

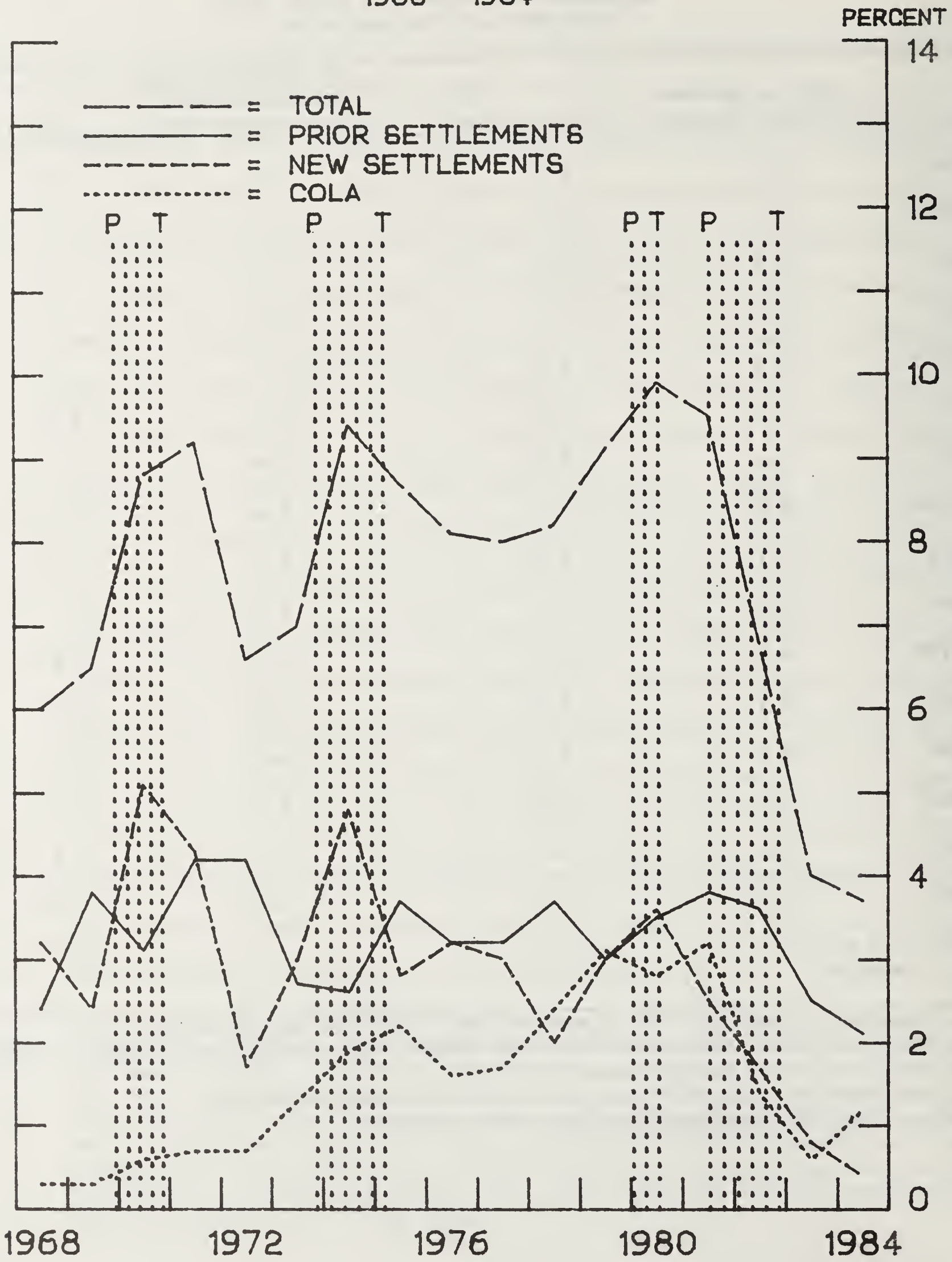
EFFECTIVE WAGE CHANGE IN MAJOR UNION CONTRACTS AND ITS COMPONENTS[a]

	Total Adjustment (percent change)	Contribution of: Prior settlements	New settlements (in percentage points)	COLA
1968	6.0	2.4	3.2	.3
1969[b]	6.5	3.8	2.4	.3
1970	8.8	3.1	5.1	.6
1971	9.2	4.2	4.3	.7
1972[b]	6.6	4.2	1.7	.7
1973	7.0	2.7	3.0	1.3
1974	9.4	2.6	4.8	1.9
1975[b]	8.7	3.7	2.8	2.2
1976	8.1	3.2	3.2	1.6
1977	8.0	3.2	3.0	1.7
1978[b]	8.2	3.7	2.0	2.4
1979	9.1	3.0	3.0	3.1
1980	9.9	3.5	3.6	2.8
1981[b]	9.5	3.8	2.5	3.2
1982	6.8	3.6	1.7	1.4
1983	4.0	2.5	.8	.6
1984: 1st six months[c]	3.7	2.1	.4	1.2

a. Contracts covering 1,000 or more workers in the private sector.
b. Years of relatively light collective bargaining activity, which tends to reduce the contribution of new settlements.
c. Computed at compound annual rates; not seasonally adjusted.
Source: Current Wage Developments, various issues.

Chart 1

EFFECTIVE UNION WAGE CHANGE AND ITS COMPONENTS: 1968 - 1984



Source: Table 1.

The recent deceleration in union wage changes, which began in 1981, has differed from past patterns in two key respects: the magnitude of the decline in first-year increases was exceptionally large, especially after 1981, and the COLA component also declined sharply as persistent slack demand curtailed price increases.

III. Evolution of Concessions

The dramatic deceleration in first-year negotiated increases after 1981 reflects both the unprecedented spread of concessions and a gradual moderation in other new settlements. Although the recent episode of concession bargaining dates back to 1979 when the United Auto Workers agreed to defer pay adjustments that previously were negotiated at Ford and GM, relatively few workers actually acceded to concessions until late 1981. Often these early concessions took the form of a temporary deferral of scheduled wage adjustments or COLAs; generally they were confined to financially troubled firms with recent track records of poor profitability relative to other companies in their industries. As the period of slack demand lengthened, however, concessions not only became pervasive but also were frequently negotiated on an industry-wide basis. Moreover, instead of wage deferrals, freezes on base wage rates and even pay cuts were extended over the life of many multi-year contracts. The impact of these concessions on first-year wage settlements can be seen from the data in tables 2 and 3.[5]

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5. Bureau of Labor Statistics (BLS) data on new wage settlements covering 1,000 or more workers exclude potential gains under escalator clauses. After 1980, agreements reached as a result of unscheduled reopenings have been included as new settlements.

Table 2

DISTRIBUTION OF WORKERS BY FIRST-YEAR WAGE ADJUSTMENT IN MAJOR COLLECTIVE BARGAINING SETTLEMENTS
(in percent)

Wage adjustment (percent change)	1980	1981	1982	1983	1984: 1st six months
Decreases	0	5	2	15	7
No wage change	0	3	42	22	20
0 to 4	3	3	9	14	27
4 to 8	25	9	23	39	43
8 and over	71	61	24	10	2
Addenda:					
Mean adjustment	9.5	9.8	3.8	2.6	2.6
Number of workers (in thousands)	3,790	2,382	3,257	3,089	834

Table 3

DISTRIBUTION OF FIRST-YEAR WAGE FREEZES AND REDUCTIONS IN MAJOR COLLECTIVE BARGAINING AGREEMENTS, BY SECTOR

		Percent of unionized private-sector workers				
Wage adjustment	1970-79 (average)	1980	1981	1982	1983	1984: 1st six months
Decreases						
Total	0	0	5	2	15	7
Manufacturing	0	0	9	2	32	2
Nonmanufacturing	0	0	2	2	7	8
Construction	0[a]	0	1	4	13	13
No Change						
Total	2	0	3	42	22	20
Manufacturing	1	0	4	50	24	24
Nonmanufacturing	4	0	2	33	20	19
Construction	4[a]	0	0	10	43	36

a. Average for 1973-79.

Source: Current Wage Developments, various issues.

In 1980, wage freezes and pay cuts affected less than 1 percent of workers under major collective bargaining agreements in the private sector.[6] Obviously, the 1980 recession did little to persuade union members that concessions were necessary to alleviate incipient financial problems in numerous industries, particularly in the manufacturing and transportation sectors. Indeed, many unions at that time were demanding and receiving substantial "catchup" increases in the first contract year to recoup unexpected declines in real wages after inflation had accelerated to double-digit rates in 1979 and 1980. This can be seen in the large proportion of workers receiving wage increases in excess of 8 percent--a pattern that persisted into 1981. However, when the recovery aborted prematurely in the middle of that year and another recession ensued, many workers' perceptions of their companies' long-run prospects apparently began to change.

In 1981, roughly 190,000 union workers in the private sector reached agreements with first-year wage cuts or freezes according to the BLS data, but by 1982 that figure climbed to almost 1.5 million.[7] Many of the larger agreements broke with traditional wage-setting practices by eliminating guaranteed annual increases over the life of the contracts. This general format became the standard for union workers in the automobile, trucking, and rubber industries in 1982, and was followed again in 1983 by the aluminum, metal container, shipbuilding, copper mining, and farm machinery industries.

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6. According to the BLS data on major settlements, only about 35,000 workers took wage cuts or freezes in 1980. A separate survey conducted by the Federal Reserve Board (FRB) staff put the tally at 67,000 workers; the staff estimate includes salaried employees who agreed to concessions similar to those granted by their union co-workers and other workers at nonunion firms.
7. The corresponding figures from the FRB staff survey were 365,000 workers in 1981 and 2.3 million workers in 1982.

Significant deviations from these industry patterns often were negotiated at companies with particularly acute financial problems. Other concessions included reductions in paid leave and elimination of some restrictive work rules. In return for concessions, unions often negotiated provisions to enhance job security, profit-sharing plans, and retraining programs for unemployed workers. In some industries, joint labor-management programs were initiated or expanded with the purpose of improving productivity, increasing workers involvement in decisionmaking, and enhancing the quality of working life. All told, more than 40 percent of workers under large new settlements accepted first-year wage freezes in 1982, and in manufacturing the proportion was one-half.

Although the incidence of wage freezes fell in 1983, the decline was largely offset by more dramatic concessions in the form of pay cuts. Most notably, settlements in the steel, airline, and meatpacking industries called for initial wage reductions ranging from 10 to 20 percent. In addition, there was a substantial rise in concession bargaining among unionized construction workers; during 1983 concessions involved more than half of construction workers reaching new settlements. Altogether, at least 1.1 million union workers in the private sector accepted wage cuts or freezes in 1983.[8]

Contrary to the expectations of some observers, wage cuts and freezes continued to be a prominent feature of union negotiations during the first half of 1984, despite the strong rebound in overall economic activity and profits over the preceding year. About one-fourth of the 834,000 workers

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8. The FRB staff survey found 1.3 million employees were subject to new concessions.

negotiating new contracts accepted initial wage cuts or freezes. In the construction industry, the average wage adjustment was zero, the lowest figure recorded for the industry since the series began in 1968. Concessions persisted in a variety of other industries as well including air transportation, food stores, shoe manufacturing, primary metals, metal cans, transportation equipmaent, textiles, and trucking.

Union wage settlements not involving concessions also moderated after 1981, but the deceleration appeared to be no greater than might be expected during a period when inflation dropped sharply. Among settlements providing first-year wage increases, workers received adjustments exclusive of COLAs averaging 5.8 percent in 1983, compared with about 11 percent in 1981. Meanwhile, the rise in consumer prices slowed to less than 4 percent in 1982 and 1983, so union workers who received wage increases on balance enjoyed fairly substantial gains in real wages. The rise in real wages over the life of contracts expiring recently goes a long way toward explaining the virtual disappearance of large initial increases during the first half of 1984, and the average first-year adjustment in settlements providing increases fell further to 4.6 percent. In short, the workforce became divided into two camps: in hard-pressed industries increasing competition spurred employers to reduce labor costs, while in industries facing less stringent product market pressures negotiators stuck with traditional wage-setting practices. Thus, the main reason for the extraordinarily large decline in first-year adjustments from 9.5 percent in 1981 to only 2.6 percent on average in both 1983 and during the first half of 1984 was the unprecedented spread of freezes on base wages and pay cuts.

As discussed earlier, the COLA component of effective union wage changes also has declined precipitously since 1981 after a decade of increase. Although concessions on COLAs have played some role in this development, by far the most important cause for the smaller contribution of COLAs lately has been the sharp deceleration of price increases.

The observed contributions of COLAs to total effective union wage changes are the product of three factors: (1) the proportion of union workers covered by COLAs; (2) the recovery rate--the extent to which COLAs formulas pass through into wage increases the change in consumer prices[9]; and (3) the rate of change in consumer prices. Historical data on these factors affecting the COLA contribution are presented in table 4. Note that the diminished role of COLAs in total union wage adjustments cannot be attributed to union workers giving up COLA provisions in their collective bargaining agreements. COLA coverage has remained fairly stable at just under 60 percent since 1976. Even in concession situations, union workers showed little willingness to eliminate entirely contractual provisions indexing wages to movements in the general price level. The only major exceptions to this generalization have occurred in concessionary contracts negotiated at airlines and food stores, where abandonment of escalator clauses has reduced COLA coverage from around 70 percent of the union workforce in these industries to less than 20 percent over the past four years.

Instead of abandoning COLA provisions altogether during the recent episode of concession bargaining, some unions agreed to defer or forego

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9. The bulk of formal escalator provisions in union contracts link COLAs to changes in the CPI-W.

Table 4
FACTORS AFFECTING COLA COMPONENTS OF
EFFECTIVE UNION WAGE CHANGES, 1968-84

Year	Wage change due to COLAs (in percentage points)	Proportion of union workers covered by COLAs (in percent)	Recovery rate[a] (in percent)		Price change[b] (in percent)
			FRB staff estimates	BLS estimates	
1968	.3	23.6	34	n.a.	4.7
1969	.3	25.0	26	n.a.	6.1
1970	.6	25.9	67	n.a.	5.5
1971	.7	27.8	92	n.a.	3.4
1972	.7	40.6	59	n.a.	3.4
1973	1.3	39.4	47	n.a.	8.8
1974	1.9	39.2	48	n.a.	12.2
1975	2.2	51.5	68	n.a.	7.0
1976	1.6	59.4	73	n.a.	4.8
1977	1.7	61.2	58	n.a.	6.8
1978	2.4	60.4	55	n.a.	9.0
1979	3.1	58.9	51	n.a.	13.4
1980	2.8	58.1	58	n.a.	12.5
1981	3.2	58.2	--	67	8.7
1982	1.4	56.7	--	70	3.9
1983	.6	57.6	--	53	3.3
1984: 1st six months[c]	1.2	57.3	--	75	2.5

a. FRB staff estimates of the passthrough of price changes into wage adjustments under COLA clauses are based on data the average size of cost-of-living adjustments for those workers who actually received payments during the calendar year as a percent of the December-to-December change in the CPI-W. These figures are less precise and more volatile than the BLS estimates, which are based on the change in consumer prices over the actual period of the COLA review.
b. December-to-December change in the CPI-W.
c. Six-month change at compound annual rates.
n.a.--not available.

Source: COLA contribution and recovery rates after 1980 are from Current Wage Developments, various issues; COLA coverage is from Monthly Labor Review, Vol. 107, no. 1 (January 1984), p. 31, and previous January issues; price change data are from the Department of Labor.

temporarily some payments (as in the auto and steel contracts), to divert payments to help defray the rising costs of fringe benefits (as in the Master Freight Agreement), or to lengthen the period between reviews, which in effect reduces employers' total costs. In addition, some settlements, notably in the steel industry, set limitations on COLAs such that payments are based only on increases in consumer prices in excess of a threshold inflation rate.

All of these modifications to COLA provisions should affect the recovery rate. BLS estimates of the recovery rate, which are based on contractual COLA formulae in major collective bargaining agreements and the actual reference periods used in computing COLA payments, are shown in column 4 of table 4. In the early 1980's, COLA formulae compensated workers for roughly two-thirds of the rise in consumer prices. Recent modifications to COLA formulae lowered the recovery rate to around one-half in 1983. Estimates of recovery rates are difficult to make precisely, but they suggest that COLA concessions accounted for perhaps one-half percentage point, or one-fifth, of the deceleration in the COLA component of total effective union wage changes. The remainder was attributable to the general slowdown in price increases. More importantly, aside from the lengthening of time periods between reviews, most of the COLA concessions appear to be temporary alterations to previous formulae, which were negotiated under extreme duress and often are terminated prior to the expiration of the contracts.

In contrast with private-sector bargaining, there was no comparable deceleration in state and local government settlements until 1983. Table 5 shows data on first-year wage adjustments for union agreements covering 5,000 or more workers at state and local governments, or about a quarter of all such

Table 5

DISTRIBUTION OF WORKERS BY FIRST-YEAR WAGE ADJUSTMENT IN STATE AND LOCAL GOVERNMENT SETTLEMENTS, 1979-84[a]

Wage adjustment (in percent)	1979	1980	1981	1982	1983	1984: 1st six months
No change	4	10	9	12	21	9
Under 6	26	8	1	6	38	67
6 to 8	52	18	37	16	21	11
8 to 10	12	53	31	55	19	12
10 and over	8	12	21	11	0	0
Addenda:						
Mean adjustment	6.8	7.5	7.4	7.2	4.4	4.6
Number of workers (in thousands)	599	425	451	573	502	164

a. Contracts covering 5,000 workers or more; wage adjustments under new settlements exclude potential gains from COLA clauses.
Source: BLS, News, August 14, 1984.

employees with collective bargaining agreements. Although no workers in this sample took wage cuts, the incidence of first-year wage freezes rose gradually through 1983 when one-fifth of the workers accepted concessions. Thus, while union concessions did occur, they were not nearly as prevalent nor as severe as those in the private sector. Much of the deceleration in the average size of state and local government settlements in 1983 came from the disappearance of large wage increases. In addition, unlike private-sector bargaining, several state and local governments persuaded their unions to drop COLA clauses by offering larger guaranteed wage increases in the early 1980s. COLA coverage among large state and local government bargaining units fell from roughly a quarter in 1979 to only 1 percent in 1983.

Factors Influencing Concessions

Developments leading up to the recent concessions were often complex in their origins and varied across industries, but many concession situations had some common characteristics. Frequently, the industries in which concessions became widespread were among those hardest hit, in terms of sales and profits, by the prolonged slump in economic activity. Yet the problems facing financially-troubled firms were not solely cyclical in nature. At least three developments that evolved during the 1970s probably would have forced unions to modify their traditional wage formulas even in the absence of persistent slack demand. First, wage dispersion across industries widened dramatically over the decade as average union wage increases consistently exceeded average nonunion wage increases. By the early 1980s, the union-nonunion wage differential had reached a historic high. Second, productivity trends deteriorated markedly across a wide range of industries, particularly after 1973. As a result,

real wage increases for many union workers tended to outstrip productivity gains, exacerbating cost pressures on prices. Third, new competition emerged. For heavily unionized "smokestack" industries, the challenge came from foreign suppliers who made dramatic inroads into U.S. markets. In several highly unionized industries less subject to import competition, domestic nonunion firms paying lower wages captured an increasing share of the market. For the airline and trucking industries, the new competition has been the result of deregulation, which effectively removed barriers to entry into basically competitive markets. The deep and lengthy recession of the early 1980s clearly added to these burgeoning market pressures on unions and hastened the evolution of concession bargaining.

Layoffs, Plant Closings, and Concessions. Concession bargaining has occurred with some regularity in the past, especially during recessions and their immediate aftermath. Adverse economic conditions tended to aggrevate the potentially precarious position of financially weak firms, and, in some instances, concessions were negotiated on an industry-wide basis. Almost invariably, however, unions have accepted concessions only when there was an immediate threat of bankruptcy or extensive plant closings.

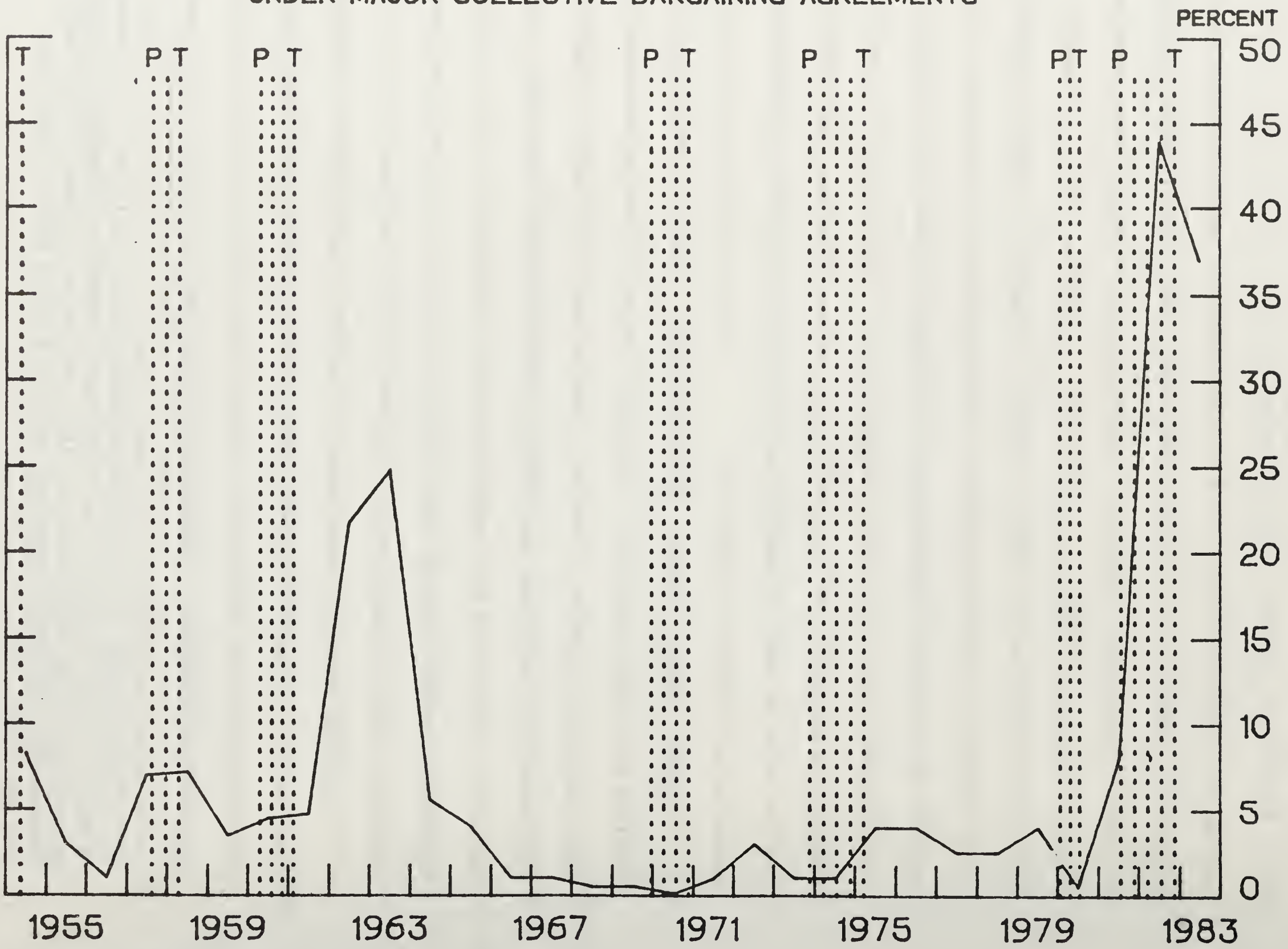
Although wage cuts were common during the Great Depression, it is perhaps more useful to trace the influence of recessions on concession bargaining after World War II. By that time, modern institutions of collective bargaining were well-established.[10] As can be seen in chart 2, two episodes of concession

10. A good history of concession bargaining after World War II is presented in Daniel Mitchell, "Recent Union Contract Concession," Brookings Papers on Economic Activity, 1982, vol. 1. Also, see Daniel Littman, "Union Wage Concessions," Economic Commentary, Federal Reserve Bank of Cleveland, June 28, 1982.

Chart 2

WORKERS RECEIVING ZERO OR NEGATIVE WAGE ADJUSTMENTS

UNDER MAJOR COLLECTIVE BARGAINING AGREEMENTS



Source: Current Wage Developments, various issues.

bargaining occurred prior to the 1980s--one during the 1953-54 recession and another in the late 1950s and early 1960s. Both episodes were highlighted by the spread of wage cuts or freezes to a substantial portion of the unionized workforce in a few select industries. Usually, these industries were undergoing extensive structural change at the time. In the early 1950s, the textile industry was faced with considerable excess capacity largely as a result of foreign competition, technological advances, and the introduction of synthetic fibers. Given the unfavorable long term prospects and the labor-intensive nature of textile production, managements sought labor cost relief. After a period of resistance, union workers accepted wage cuts. Despite these concessions, the industry continued to decline. Settlements remained moderate, but crisis bargaining did not recur to any significant extent. Weak firms suffered bankruptcies, while healthier firms adapted and diversified to meet new competition.

During the late 1950s and early 1960s, the meatpacking industry also was experiencing structural upheaval that posed serious financial problems for large unionized firms.[11] Nonunion firms paying wages well below the union scale had entered the market by building highly efficient production facilities. Unionized companies, which had once dominated the market, failed to keep abreast of technological and marketing advances. Meatpacking unions were unable to organize the new plants, and cost disadvantages threatened the long term viability of unionized firms. Although the unions managed to avoid concessions during the 1960-61 recession, labor agreements at large firms

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11. This episode is chronicled in Hervey Juris, "Union Crisis Wage Decisions," Industrial Relations, May 1969, pp. 247-58.

eventually were reopened in 1962 and 1963, and wage freezes, pay cuts, and work rule changes resulted.

Outside of meatpacking wage cuts were rare in the early 1960s, but decisions not to increase negotiated base wage rates were common. Some observers viewed the prevalence of moderate settlements at that time as evidence of success of the wage-price guideposts program[12] or to a tougher stance taken by management after a period when unions had extracted fairly generous wage increases. But there also was considerable concern among union workers about the impact of automation and the employment problems caused by closures of outmoded plants. Efforts were undertaken to promote labor-management cooperation on issues of mutual concern such as technical change, work rules, retraining programs, and job security. Thus, in many respects the apprehension about automation during the early 1960s can by likened to recent concerns about plant closings and the challenge from Japanese technology.

Aside from the few instances of industry-wide concessions, most distressed bargaining situations during the postwar period prior to 1982 were specific to individual firms or plants. Almost invariably, these situations involved financially weak firms, and managements were able to convince workers that concessions were necessary to assure the firm's survival or to avoid plant closure. Recessions exacerbated the problems facing financially weak firms, precipitating a rise in concession bargaining, but even during expansions in economic activity some firms inevitably found themselves unable to compete with stronger rivals and sought labor cost relief. Typically, however,

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12. See George Perry, "Wages and the Guideposts," American Economic Review, vol. 57 (September 1967), pp. 897-904, and John Sheahan, The Wage-Price Guideposts, Brookings Institution, 1967, pp. 83-92.

concessions at marginal firms had little or no influence on wages at other firms within the industry.

A characteristic common to both industry-wide and firm-specific concession situations during the postwar period was the emergency of crisis situations that threatened permanent plant closings or bankruptcies. Temporary layoffs even on a large scale generally did not provoke extensive concessions. A case in point is the experience during the 1974-75 recession. Negotiations for most major multiyear settlements were completed before the severity of the recession was evident; the generous settlements that did take place in late 1974 and 1975 were in those industries least affected by the recession--coal, petroleum, and telephones. Yet, although employment and output fell sharply in many industries, existing contracts were not reopened, as they have been recently. The reason for the sharp contrast between the experiences of 1974-75 and 1980-84 apparently was that union workers did not prerceive job losses to be permanent in the earlier period.

Job losses were pervasive among union workers during the early 1980s. Table 6 shows cumulative employment declines from peak levels (usually in 1979) to their recession lows for numerous heavily unionized industries in which concessions became widespread. In many cases including automobiles and steel, more than one-third of the prerecession workforce was laid off. In the meatpacking, trucking, and airline industries, the overall employment declines undoubtedly understate the adversity faced by union workers because the number of nonunion jobs expanded or at least contracted less than union jobs. By 1982, many union workers had been separated from their former jobs for nearly three years, and prospects for regaining them were highly unfavorable.

Table 6

JOB LOSSES IN SELECTED INDUSTRIES RECEIVING WAGE CONCESSIONS

Industry	Cumulative changes in employment from prerecession peaks to: Recession trough	April 1984
	--in percent--	
Copper ores	-50.4	-50.4
Construction	-29.8	-6.5
Metal cans	-28.8	-26.8
Primary aluminum	-37.7	-24.4
Fabricated structural metal	-29.5	-25.0
Farm machinery	-48.4	-42.5
Construction machinery	-59.6	-43.9
Metalworking machinery	-28.6	-18.6
Motor vehicles and equipment	-35.7	-22.4
Blast furnace and basic steel products	-43.7	-40.2
Meat packing plants	-17.2	-12.6
Tires and inner tubes	-27.9	-21.4
Trucking and trucking terminals	-17.3	-4.8
Air transportation	-5.4	3.0
Food stores	No trough	12.9
Ship and boatbuilding	-20.7	-9.8
Total private nonfarm	-4.4	5.6

1. Source: Supplement to Employment and Earnings, U.S. Department of Labor, July 1984, and recent monthly issues. Peaks and troughs are specific to the individual industries. The absolute decline in employment totaled about 4 million in the industries listed; private nonfarm employment fell 1.9 million between February 1980 and December 1982.

Indeed, after 1-1/2 years of economic recovery, employment in these industries generally was still well below prerecession levels.

A puzzling question is why must crisis situations develop before unions are willing to modify traditional wage practices. One possible explanation is that unions simply do not perceive that a wage-employment tradeoff exists, especially in the short run. Under some circumstances, these perceptions may not be entirely fallacious. If the elasticity of demand for union labor is low, as some evidence suggests, the existing workforce would have to sacrifice a lot in wages to generate a small gain in employment for their unemployed counterparts.[13] Elasticities of labor demand tend to be low when unions effectively control their jurisdictions and when the ratio of labor costs to total costs is low. For many of the industries in which concessions ultimately were granted including steel, autos, meatpacking, and tires, the ratio of labor costs to total costs was one-third or less. A sizable wage cut, even if fully passed through into prices, would translate into only a moderate reduction in product prices, which in turn would stimulate a fairly small immediate effect on output and employment. Thus, low short-run elasticities of labor demand could account in part for the reluctance of unions to accept concessions until there were clear signs of a long-term crisis.

Institutional considerations also can forestall or even preclude concession bargaining during recessions. Workers often distrust their companies' claims of financial distress.[14] Lacking membership support, union leaders

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13. Estimates of elasticities of labor demand across industries are not available, although some evidence on elasticities facing unions can be found in Richard B. Freeman and James L. Medoff, "Substitution Between Production Labor and Other Inputs in Unionized and Non-Unionized Manufacturing," Review of Economics and Statistics, vol. 64, (May 1982), pp. 220-33.

14. A striking example was the situation at General Motors in 1981. Despite numerous plant closings and massive layoffs, a company opinion poll found that 60 percent of employees thought that GM still was making a profit. GM lost $763 million in fiscal year 1980.

avoid recommending pay cuts that would alienate their members and threaten their political positions. Moreover, union leaders tend to view concessions as undermining union strength because they can subject the union to demands for equal treatment by other organized firms.

These considerations illustrate the key role in union decisionmaking played by senior workers, who are insulated to some extent from layoffs due to seniority systems. Unless the job security of senior workers is threatened, a consensus in favor of contract reopenings and concessions is unlikely to emerge. The jobs of senior workers rarely were threatened during the postwar period prior to the 1980s, and the responsiveness of wages under multiyear contracts to cyclical changes in economic conditions was sharply limited. Unlike the experience during earlier postwar recessions, however, crisis situations that threaten senior workers--imminent threats of bankruptcy or permanent plant closings--extended far beyond marginal firms during the early 1980s and afflicted a much greater number of industries.

Long-Run Influences. Although massive layoffs were the catalyst for concessions, a confluence of developments during the 1970s had added to market pressures on unions and probably would have forced them to modify traditional wage formulas in any event. Namely, the prolonged period of slack demand brought to a head long-run structural problems facing unionized industries. These difficulties included high domestic labor costs, a narrowing or even elimination of the U.S. productivity advantage, and the failure of unionized industries to adapt quickly to changes in technology and consumer preferences. As these problems evolved, numerous unionized markets became increasingly vulnerable to import and nonunion competition.

The ability of labor unions to raise relative wages rests on their ability to maintain barriers to entry. Various strategies have been used by different unions to limit entry such as seeking to organize all producers of a particular product, enforcing contractual provisions that restrict outsourcing of work, and supporting protectionist trade policies. By restricting nonunion or foreign competition, unions in effect can lower the elasticity of demand for their members' services. By the late 1970s, however, unions in numerous major industries faced an unprecedented assault on their ability to control their jurisdictions.

In key manufacturing industries, the threat to union power came from imports. During the 1970s, foreign suppliers made steady inroads into U.S. markets that formerly had been dominated by domestic firms. By 1982, foreign cars accounted for 28 percent of total U.S. auto sales, compared with only 9 percent in 1968. The import share for steel almost doubled over the same period to 22 percent (table 7). Likewise, imports of apparel, tires, leather goods, and machine tools rose sharply as a share of domestic sales. The sharp increase in the foreign exchange value of the dollar since early 1980 put added pressure on domestic producers by reducing the relative price of imported goods. Since late 1982, the strong recovery of aggregate demand has bolstered sales of domestic producers but has not stemmed the tide of rising imports. Indeed, the U.S. merchandise trade deficit reached record levels during the first half of 1984.

In a number of industries not subject to imports, the emergence of nonunion competition eroded union bargaining power. Union control in construction, meatpacking, and at retail food stores declined substantially

Table 7

IMPORT PENETRATION RATIOS[1]
(in percent)

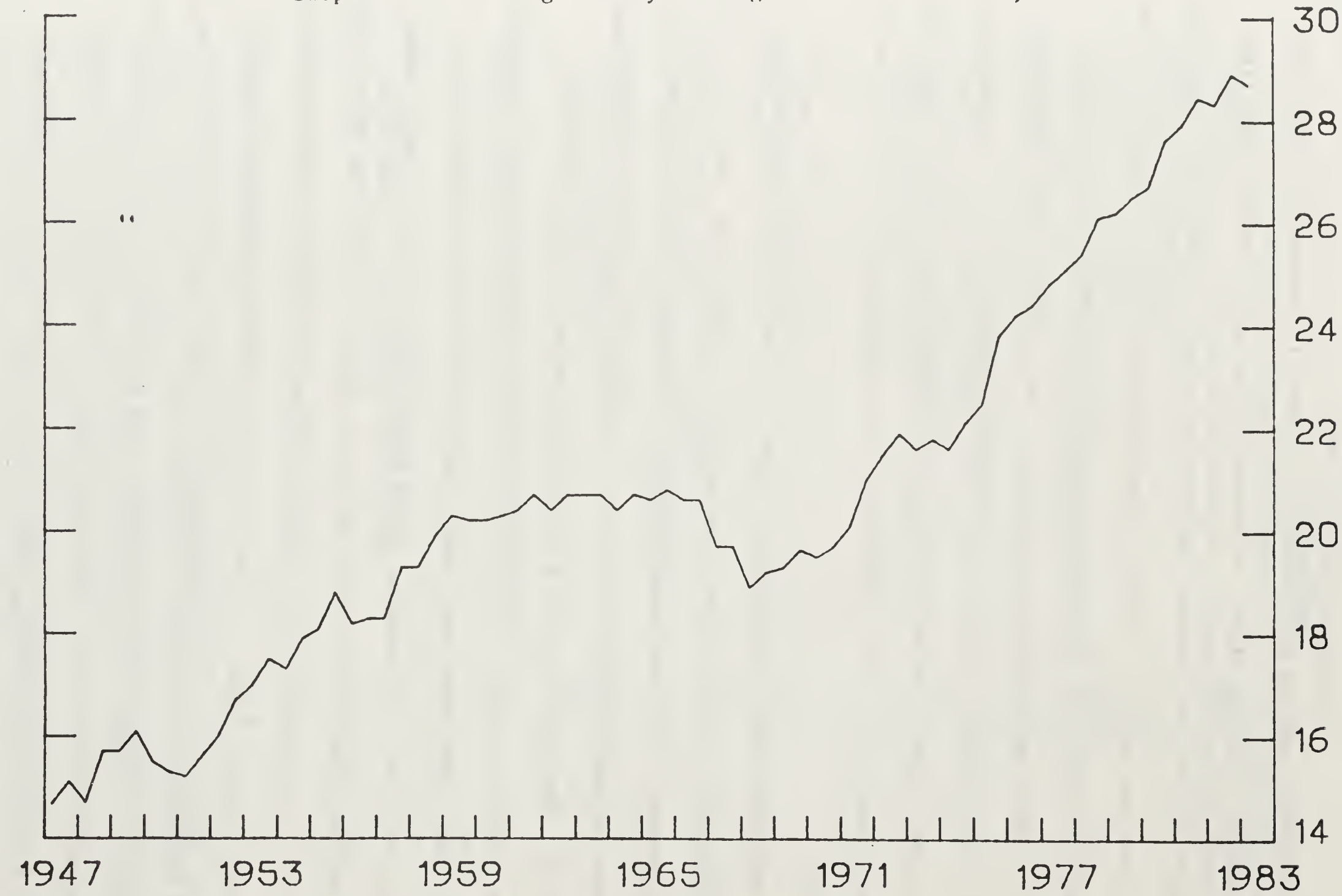
Industry	1968	1981
Food and kindred products	1.0	4.2
Tobacco manufacturers	.3	2.0
Textile mill products	5.2	5.9
Apparel and related products	4.2	13.7
Lumber and wood products, except furniture	8.3	8.7
Furniture and fixtures	1.6	4.8
Paper and allied products	5.8	6.4
Printing, publishing, and allied products	.6	1.0
Chemicals and allied products	2.3	4.4
Petroleum and coal products	3.9	6.8
Rubber and miscellaneous plastic products	3.0	7.7
Tires and inner tubes[2]	2.3	11.7
Leather and leather products	8.9	24.7
Stone, clay, and glass products	3.0	5.1
Primary metal products	8.8	14.5
Steel[3]	12.2	21.8
Fabricated metal products, except machinery and transportation equipment	1.7	3.9
Machinery, except electrical	4.0	3.9
Metalworking machinery[2]	4.8	16.3
Machine tools[2]	14.6	29.4
Electrical machinery, equipment, and supplies	4.0	8.0
Transportation equipment	5.7	14.8
Motor vehicles and parts[2]	5.7	21.7
Measuring, analyzing, and controlling instruments; photographic and optical goods; watches and clocks	4.9	11.3
Miscellaneous manufactured commodities	10.6	23.6
All manufacturing industries	4.3	8.4

1. Data are from the Bureau of Labor Statistics, except where noted. Import penetration ratios are defined as imports as a proportion of total industry shipments plus imports. Changes in industry classifications as of 1972 affected import penetration ratios in a few industries, notably petroluem; basic trends for most two-digit industries, however, are not distorted by comparing figures for 1968 and 1981.
2. Data are from the Census of Manufactures, 1967 and 1982.
3. Data are from the American Iron and Steel Institute, 1967 and 1982. Exports are netted out in this volume based data.

during the 1970s, and the deterioration appeared to accelerate during the past recession. For the highly unionized airline and trucking industries, deregulation effectively removed barriers to entry into basically competitive markets, and new low-cost nonunion firms offering discount rates have thrived. Whatever its source, the heightened competition exacerbated the cyclical decline in union employment and undoubtedly was a major factor influencing worker's perceptions of their firm's long-term prospects. More importantly, greater competition in product markets meant that firms could no longer pass on higher costs into prices with impunity, as appeared to be the case during the 1970s.

Underlying these fundamental changes in product markets were marked cost differences between union firms and their competitors. During the 1970s, wage increases varied considerably across industries, and the dispersion of wage rates widened dramatically after a decade of remaining relatively stable (chart 3). The causes of the increased dispersion in wages is open to debate, but it is clear that many of the union workers granting concessions in the early 1980s were among those receiving the largest wage increases during the 1970s. For example, union wage scales in autos, steel, rubber, and trucking climbed from around 30 and 40 percent higher than the average wage for all private nonfarm production workers in the late 1960s to between 50 and 80 percent higher in 1981 (table 8). In the meatpacking industry, older unionized plants paid substantially higher wages than the new nonunion plants with advanced technology, and large settlements in the construction industry during the early 1980s undoubtedly widened the wage gap between union and nonunion workers. Many of these industries also experienced

Chart 3
Dispersion of Average Hourly Earnings Across Industries, 1947-83[a]



Source: U.S. Department of Labor

[a] The summary statistic plotted is the coefficient of variation for average hourly earnings in 44 3-digit SIC industries for which data are available since 1947. A similar widening in interindustry wage differentials during the 1970s was evident for a larger sample of 120 3-digit industries for which data are available since 1958. Weighting the earnings data by industry employment also did not change the basic pattern of dispersion.

Table 8

RATIO OF HOURLY EARNINGS IN SELECTED INDUSTRIES TO AVERAGE FOR PRIVATE NONFARM PRODUCTION WORKERS, 1969-83

Industry	1969	1973	1977	1981	1983
Trucking[a] (Master Freight Agreement)	1.31	1.59	1.63	1.73	1.63
Autos[b]	1.39	1.45	1.57	1.70	1.67
Steel[c]	1.34	1.42	1.64	1.81	1.67
Rubber[d]	1.38	1.33	1.38	1.53	1.54

a. Straight-time hourly wage rates are specified in Master Freight Agreements.
b. SIC 3711, motor vehicles and car bodies.
c. SIC 3312, blast farmers and steel mills.
d. SIC 301, tires and inner tubes.

Source: U.S. Department of Labor and Master Frieght Agreements for various years.

a slowdown in productivity growth after 1973, compounding their cost disadvantages relative to foreign or domestic nonunion competitors (table 9).

Legal Environment. Recent legal developments are often cited as having an independent influence on the relative bargaining power of labor and management, apart from the changes in economic conditions that have occurred. In particular, the increasing difficulties encountered by unions in trying to extend their jurisdictions has been attributed to illegal activity by employers in resisting organizing efforts. Moreover, changes in the bankruptcy law in 1978 have allowed management to abrogate labor contracts under certain circumstances.[15] A closer look at these developments suggests that the regulatory and legal environments probably played relatively small roles in both the general decline in unionization and the recent outbreak in concession bargaining.

The decline in union influence began well before the recent period of concession bargaining. Union representation as a proportion of private employment peaked in the mid-1950s and has declined ever since. Union expansion into public employment only partially offset the erosion of union coverage in the private sector. Absolute union membership peaked in 1978. Much of the deterioration in the extent of unionization can be attributed to changes in the industrial mix of employment as well as in the occupational composition and geographic location of jobs within industries.[16] Another contributing

15. The discussion of legal developments follows that in Robert J. Flanagan, "Wage Concessions and Long-Term Union Wage Flexibility," Brookings Papers on Economic Activity, 1984:1, pp. 183-216.

16. Jobs in the private service-producing sector, which are inherently difficult and costly to organize due to the small size of establishments, accounted for 54 percent of nonfarm employment in 1981 compared with 46 percent in 1959; over that period, the proportion of jobs in the heavily unionized goods-producing sector declined 10 percentage points. Employment also shifted within industries from blue-collar jobs toward white-collar jobs and from northern and eastern states to the South where unionization historically has been low.

Table 9

PRODUCTIVITY AND REAL WAGE GROWTH IN SELECTED INDUSTRIES, 1947-73 and 1973-81
(Average annual percent changes)

Industry	Productivity growth[a]		Real Wage Growth[b]	
	1947-73	1973-81	1947-73	1973-81
Motor vehicles and equipment	3.7(57-73)	1.9	1.6(58-73)	1.4
Steel	1.8	0.8	2.6	2.3
Tires and inner tubes	4.0	2.9	2.0	1.4
Primary aluminum	4.4	-0.3	2.2	2.7
Farm and garden machinery	2.5(58-73)	0.5	n.a.	1.0
Intercity trucking	2.7(54-73)	0.3	2.9(64-73)	0.6[c]
Air transportation	7.5	2.6	n.a.	n.a.
Metal cans	2.3	3.8	3.1	1.8
Copper mining, crude ore	3.7(55-73)	2.2	2.6	3.0
Retail food stores	2.8(58-73)	-0.6	2.5(58-73)	0.8
Construction machinery	2.1(58-73)	0.1	2.1	0.7
Machine tools	1.5(58-73)	-0.7	2.4	-0.5
Meatpacking	3.2(67-73)	3.2	2.9	-0.1
Fabricated structural metal	2.3(58-73)	-0.4	3.7	0.2
Total private nonfarm	2.5	0.6	2.3	-0.4

a. Output per employee hour.
b. Average hourly earnings deflated by the fixed-weighted price index for personal consumption expenditures.
c. Wage data from Master Freight Agreements, various years.
n.a.--not available.

Source: Productivity Measures for Selected Industries, 1954-81, BLS Bulletin 2155 (December 1982) and Employment and Earnings, United States 1909-78, BLS Bulletin 1312-11 (1979) and Supplement (July 1984).

factor was the failure of unions to win representation elections run by the National Labor Relations Board. In 1950, unions won about 75 percent of certification elections, but by 1981 their success rate had dropped to 45 percent. Although election losses might reflect employer hostility, they are of secondary importance in explaining the decline in union influence, because the number of workers involved in certification elections has been a very small and declining portion of the nonunion workforce since the 1950s.[17]

Another development--a revision to the Bankruptcy Code in 1978--altered the legal status of union contracts. Under the new law, financially troubled firms no longer needed to prove that they were currently insolvent before initiating bankruptcy proceedings. Judges of bankruptcy courts could set aside certain "executory" contracts while troubled firms continued to operate and attempted to reorganize, but no specific mention was made for labor contracts. This omission opened up a conflict between the bankruptcy code and the National Labor Relations Act (NLRA), which prohibits either party from unilaterally changing the terms of a labor agreement during its duration but makes no mention of bankruptcy situations. This conflict came to a head in 1983 when a number of unionized companies including Wilson Foods Corporation and Continential Airlines filed for bankruptcy and cut wages drastically before the bankruptcy court ruled on the petitions.

In February 1984, the U.S. Supreme Court ruled on several issues concerning the status of labor agreements in bankruptcy proceedings. Under the Bildisco decision, bankruptcy courts could set aside union contracts without requiring that companies demonstrate imminent failure if they were held to their contracts.

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17. In 1980, less than 1 percent of the nonunion workforce took part in representation elections.

Moreover, a company in bankruptcy could unilaterally abrogate labor agreements before the bankruptcy court approved its petition.

Even though the Bildisco decision established a more lenient standard for voiding labor contracts in bankruptcy proceedings, it is unclear that the ruling actually tips bargaining power in favor of management. The Supreme Court expressly upheld the basic rights of unions to represent their members and to bargain for a new contract while the company is in bankruptcy proceedings. Unions are free to strike under these circumstances and may file for damages like other creditors of the company. Management may hire permanent replacements for strikers, as they always could under the NLRA (except when the strike is precipitated by unfair labor practices). Moreover, bankruptcy courts still can reject unwarranted petitions, reestablish contracts, and award damages. Thus, the main effect of the Bildisco ruling probably is to move forward the timetable for reopening labor contracts, rather than to alter fundamentally the forces that determine the ultimate outcome of negotiations.[18]

Congress partially overruled the Bildisco ruling in June when it passed the Bankruptcy and Federal Judgeship Act of 1984. A provision in the Act prevents employers who file for bankruptcy from repudiating their union contracts without court approval. In particular, the provision requires an employer to bargain with the union before applying for court approval of contract rejection. A bankruptcy court then can approve the debtor's application

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18. The outcome at Wilson Foods is a case in point. After filing for bankruptcy under Chapter 11 in the spring of 1983, Wilson unilaterally cut wage rates roughly 40 percent to an average of about $6.50 an hour, close to the what nonunion firms were paying at the time. A three-week strike ensued, and the company finally agreed to a new union contract with an average wage of $8.30 an hour. Subsequently, other unionized producers reached similar agreements without filing for bankruptcy.

if the court finds that the balance of the equities "clearly favors" rejection of the contract. However, if the court fails to act within 30 days of hearing on the debtor's application, the debtor unilaterally can reject the union contract pending court action.

Impact of Concessions on Aggregate Wage Inflation

The unprecedented concessions after 1981 coincided with a halving of the average rate of wage inflation from 9 percent to around 4 percent lately (table 10). In the union sector, wage inflation even more rapidly from 11 percent in 1980 to only 3-1/2 per cent in the first half of 1984. In contrast with other recent postwar downturns, union wage change actually began to decelerate long before there was any sign of a slowdown in nonunion wages.

The extent to which concessions contributed to the general wage deceleration is an important issue in assessing future prospects for wage inflation. If concessions can be explained largely by the extreme adversity faced by financially distressed industries, then the ongoing recovery in economic activity and profits may signal an ending of concession bargaining. Moreover, to the extent that union wage concessions influenced other wage decisions, any attempts to recoup past sacrifices also could foster an acceleration in wage increases elsewhere during the period of expansion. The more general issue of whether recent concessions mark permanent changes in union wage determination will be discussed in the next section.

Some studies have found that the recent wage deceleration exceeded what would be predicted by past empirical relationships. Using data from the hourly earnings index, Cagan and Fellner estimated conventional reduced-form wage equations of the form:

Table 10

THE DECELERATION OF WAGES AND COMPENSATION, 1979-84
(Changes in percent)

Measure	1979	1980	1981	1982	1983	1984: 1st six months
Compensation rates						
Compensation per hour, Nonfarm business sector[a]	9.2	10.8	8.8	7.2	3.9	4.3
Employment cost index, Private nonfarm sector[b]	--	9.7	9.8	6.4	5.7	5.4
Wage rates						
Hourly earnings index[a]						
Private nonfarm	8.0	9.6	8.3	6.1	3.9	3.4
Manufacturing	8.7	10.9	8.8	6.0	2.7	3.4
Employment cost index, wages and salaries[b]						
Private nonfarm	8.7	9.0	8.8	6.3	5.0	4.2
Union	9.0	10.9	9.6	6.5	4.6	3.6
Nonunion	8.5	8.0	8.5	6.1	5.2	4.6
Manufacturing	8.6	9.4	8.7	5.6	4.3	4.1
Union	9.4	11.0	8.9	5.8	3.6	4.0
Nonunion	7.9	7.9	8.3	5.6	4.7	4.1
Nonmanufacturing	8.8	8.8	9.0	6.5	5.5	4.3
Union	8.5	10.8	10.2	7.1	5.5	3.1
Nonunion	8.8	8.1	8.6	6.2	5.5	4.7
State and local government	—	—	--	6.5	5.3	5.5[d]
Major collective bargaining agreements[c]						
Total effective wage changes						
Private sector	9.1	9.9	9.5	6.8	4.0	3.7
State and local government	5.7	6.5	8.7	6.6	5.2	4.2
First-year adjustments under new settlements						
Private sector	7.4	9.5	9.8	3.8	2.6	2.6
State and local governments	6.8	7.5	7.4	7.2	4.4	4.6

Source: Compensation per hour and hourly earning index are from the U.S. Bureau of Labor Statistics. Employment cost index is from Current Wage Developments, Vol. 36 (May 1984), pp. 37-45 and BLS, News, July 31, 1984. Effective union wage changes are from Current Wage Developments, various issues and BLS, News, July 27 and August 14, 1984.

Table 10 Footnotes con't.

a. Fourth quarter to fourth quarter; data for 1984 are from 1983-Q4 to 1984-Q2 at a compound annual rate.

b. December to December; data for 1984 are from December 1983 to June 1984 at a compound annual rate, not seasonally adjusted.

c. Wage adjustments put in place during the calendar year, except for 1984 which covers only the first six months.

d. June 1983 to June 1984.

$$\dot{W} = a_1 + a_2 \frac{1}{U} + a_3 \left(\frac{1}{U} - \frac{1}{U_{-1}}\right) + a_4 P_{-1} + \text{shift variables} \qquad (1)$$

where $\dot{W}$ is the annualized rate of change in the wage index, U is the civilian unemployment rate (and its lagged value U_{-1}), P_{-1} is the rate of change in consumer prices over some preceding period, and the shift variables are dummy variables that allow for changes in the empirical relationship during specified periods. Various specifications revealed a significant downward shift in wage inflation after 1981 of around 1 percentage point.[19] Perry, on the other hand, found no evidence of a downward shift until late 1982 but allowed that if overpredictions persisted after 1983-Q2 (his last data point) they would indicate a change from past cyclical relationships.[20] The 4 percent increase in the hourly earnings index over the four quarters of 1983 was 1.5 percentage points less than what his equations predicted for the first half of the year. Similar reduced-form wage equations using increases in hourly compensation overpredict actual values by slightly more than 1 percentage point in 1983 and the first half of 1984 (chart 4).[21]

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19. Phillip Cagan and William Fellner, "Tentative Lessons from the Recent Disinflationary Effort," Brookings Papers on Economic Activity, 2:1983, pp. 603-608; and "The Cost of Disinflation, Credibility, and the Deceleration of Wages 1982-83," Contemporary Economic Problems 1983-84, American Enterprise Institute, 1984, pp. 7-19.

20. George L. Perry, "What Have We Learned About Disinflation," Brookings Papers on Economic Activity, 2:1983, pp. 587-602.

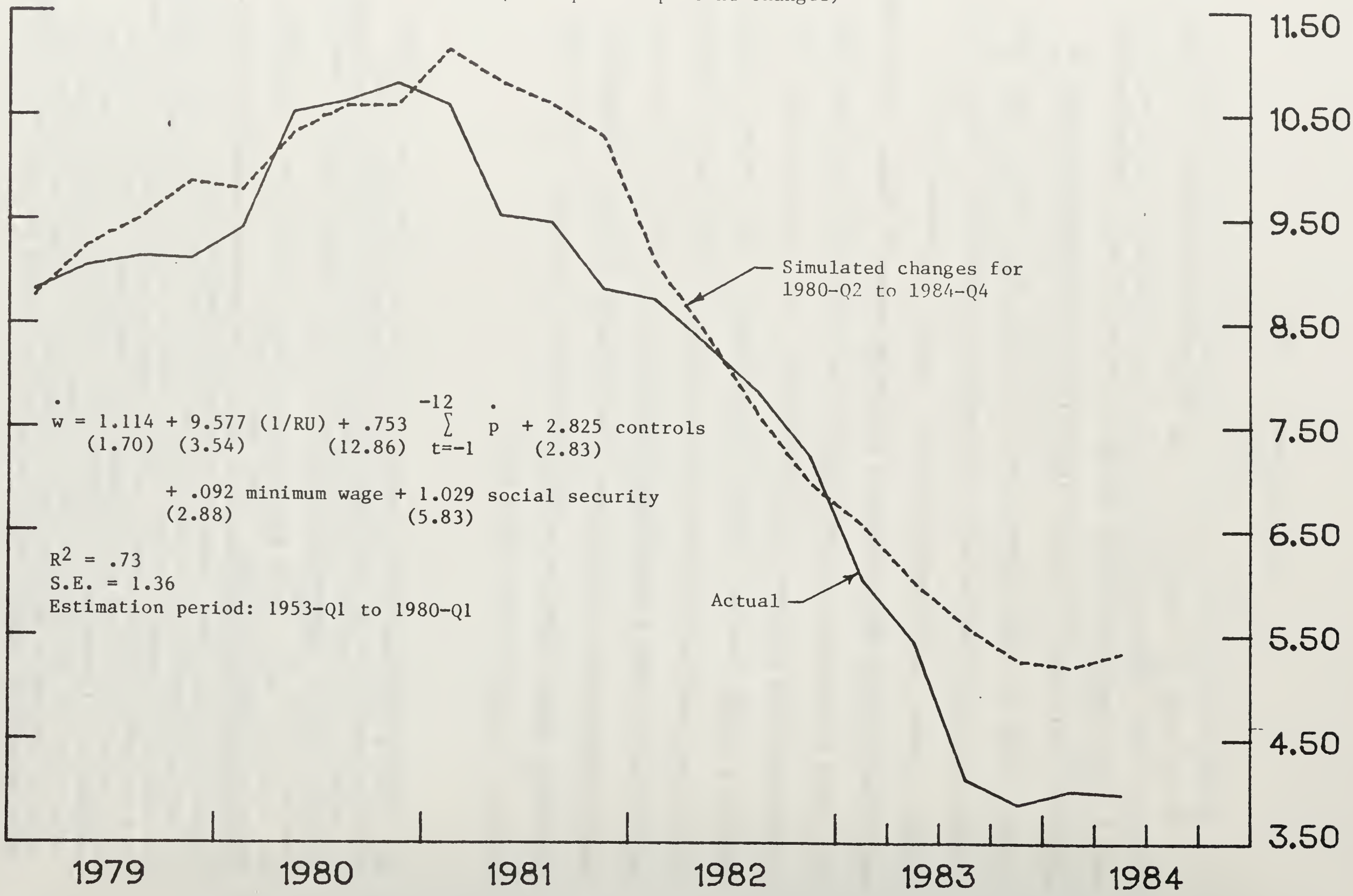
21. The equation results plotted in chart 4 use quarterly changes in hourly compensation (at annual rates) for the nonfarm business sector. The change in the unemployment rate is omitted, and a variable to account for the effects of legislated changes in social security taxes is added. Regression coefficients were estimated through 1980-Q1, and the equation was simulated through 1984-Q2 using actual values for price changes and unemployment rates. The price variable is a 12-quarter distributed lag on changes in the fixed-weighted price index for personal consumption expenditures; unemployment rates are adjusted for shifts in labor force composition. A dummy variable for the Nixon wage-price controls equals minus one in 1971-Q4 and plus one in 1972-Q1.

Chart 4

ACTUAL AND PREDICTED CHANGES IN HOURLY COMPENSATION

1979 - 1984

(four-quarter percent changes)



$$\dot{w} = \underset{(1.70)}{1.114} + \underset{(3.54)}{9.577}\,(1/RU) + \underset{(12.86)}{.753}\sum_{t=-1}^{-12}\dot{p} + \underset{(2.83)}{2.825}\ \text{controls} + \underset{(2.88)}{.092}\ \text{minimum wage} + \underset{(5.83)}{1.029}\ \text{social security}$$

$R^2 = .73$
S.E. = 1.36
Estimation period: 1953-Q1 to 1980-Q1

Source: Hourly compensation data are from the Bureau of Labor Statistics. See text for a description of the model simulation.

Several explanations for the especially rapid slowdown in wage inflation have been put forth. Some observers argue that sustained policy actions to curb inflation effectively persuaded labor and management that inflation in fact would be reduced substantially, thereby speeding up the transition to smaller increases by lowering any expectations of future inflation that might be built into wage decisions. While this argument is perfectly plausible, it is hard to distinguish the impact of improved credibility of anti-inflation policy from the possible effects on expectations of the extraordinarily long period of slack demand. Another possibility is that the extreme distress faced by many unions precipitated concessions and contributed to more rapid wage deceleration.

As discussed above, threats of imminent bankruptcy or permanent plant closings may overcome workers' reluctance to grant wage concessions whereas cyclical layoffs, even when substantial, did not tend to provoke contract reopenings. To the extent that cyclical variables, such as the national unemployment rate do not fully capture the effects of the extraordinary adversity experienced by union workers during the 1980-83 period, conventional wage equations may not pick up an added influence from unprecedented wage concessions.

To test whether the uneveness of market pressures contributed to recent wage deceleration, the profit rate along with a variable that interacts the the unemployment rate with the dispersion of profit rates across industries were added to a conventional wage equation.[22] The rationale for the interaction

22. The profit rate may represent employers' ability to grant wage increases: high profits can lead workers to inflate wage demands, and profit losses can reinforce employers' demands for wage moderation. Prior to the 1970s, the profit rate (but not its dispersion) was often included in wage equation studies. See Laurence S. Seidman, "The Return of the Profit Rate to the Wage Equation," Review of Economics and Statistics, vol. LXI, no. 1 (February 1979) for a recent study using profit variables.

variable is as follows. Growing cost disadvantages have adverse long-run consequences for rates of return in affected industries. When structural problems become increasingly pervasive, the dispersion of profit rates across industries widens. Moreover, recessions exacerbate structural problems, and the resulting profit losses increase the likelihood of wage concessions. Because complete data on profit rates by industry are available only for the manufacturing sector, the hypothesis was tested using a wage equation for that sector.

Wage increases in manufacturing dropped very rapidly--from nearly 11 percent in 1980 to less than 3 percent in 1983. At the same time, concessions were more extensive in manufacturing than in other sectors, and equation over-predictions were particularly large, averaging about 2 percentage points from 1982 through mid-1984. As shown in chart 5, including the profit rate and its dispersion across industries virtually eliminates the overprediction of a conventional wage equation after 1981.[23] This finding together with the institutional considerations discussed above suggest that the long-term factors influencing concessions played an important role in the downward shift in wage inflation.

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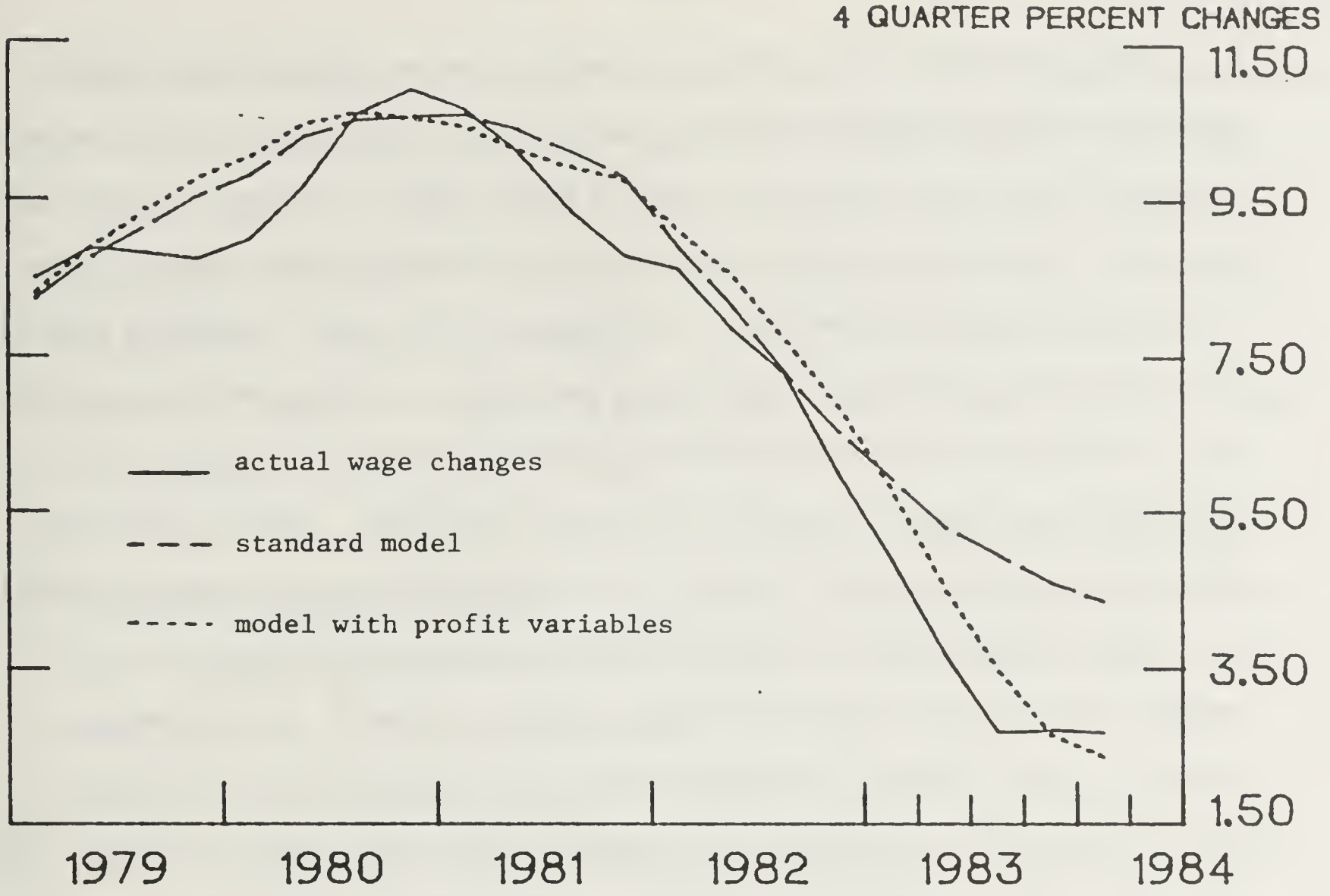
23. The two profit variables were the actual profit rate on stockholders' equity as given in the Federal Trade Commission's Quarterly Financial Reports for U.S. Manufacturing and its variance across two-digit industries interacted with the unemployment rate; both variables were lagged over four quarters prior to the current quarter. All other variables were identical in the two equations: wage changes were from the hourly earnings index for manufacturing; price changes were measured by the fixed-weighted price index for personal consumption expenditures lagged over 12 quarters; the unemployment rate was adjusted for changes in the composition of the labor force over the sample period (1956-Q2 to 1983-Q4). Results using changes in hourly compensation in institutional considerations discussed manufacturing were essentially the same as those for the wage index.

ACTUAL AND PREDICTED WAGE CHANGES IN MANUFACTURING
1979 - 1984



Standard model:

$$\dot{w} = \underset{(.17)}{.150} + \underset{(2.81)}{10.560}(1/RU) + \underset{(14.76)}{.815}\sum_{t=-1}^{-12}\dot{p} + \underset{(2.59)}{2.660}\,\text{controls} + \underset{(2.95)}{.094}\,\text{minimum wage}$$

$R^2 = .75$
s.e. = 1.45

Model with profit variables:

$$\dot{w} = \underset{(.42)}{.455} + \underset{(1.52)}{6.122}(1/RU) + \underset{(11.2)}{.815}\sum_{t=-1}^{-12}\dot{p} + \underset{(2.67)}{2.638}\,\text{controls} + \underset{(2.80)}{.087}\,\text{minimum wage} + \underset{(.83)}{.080}\,\text{profit rate} - \underset{(-3.19)}{.00015}\,RU \times \text{var}(\text{profit rate}_i)$$

$R^2 = .78$
s.e. = 1.39

Source: Hourly earnings index for manufacturing, U.S. Department of Labor.
For a description of variables, see footnote 23.

Apart from the direct effect of concessions on average wage change in heavily unionized sectors--notably manufacturing, construction, and transportation, concession bargaining appeared to have a fairly minor influence on other wage decisions. Spillovers largely were confined to nonunion employees at firms receiving concessions from their unionized workforce and to unionized industries that had strong traditions of following patterns set by key industries in the past. Many union contracts contained provisions requiring "equality of sacrifice" from nonunion counterparts at the same firm. Indeed, companies often imposed concessions on their nonunion employees prior to union negotiations as a symbol of good faith. Moreover, once concessions were negotiated in certain key contracts--Ford and General Motors, the basic steel agreement, and the national Master Freight Agreement--other concessionary settlements soon followed within spheres of union wage setting that have been evident for many years. For example, the automobile settlements set precedents for revised agreements in automotive parts, truck manufacturing, farm and construction equipment; the master steel settlement influenced negotiations in nonferrous metals and metal containers; and intercity trucking settlements were imitated in local trucking agreements, settlements for truckers at retail food stores, and at bus companies.

Even in these examples, it is difficult to distinguish between what might be considered pattern behavior and the fact that all of the industries were faced with acute financial problems. The contracts negotiated within traditional spheres of influence were far from identical; rather, they clearly were tailored to fit the particular economic conditions of each industry.

The steel contracts, for example, cut pay substantially (although the reductions will be restored over the contract term) and limited COLAs for 2-1/2 years whereas related settlements merely froze base wage rates. Settlements for truck and bus drivers also have varied widely according to market conditions and companies' fortunes. In short, even within traditional spheres of imitation, there was considerably greater diversity of wage settlements than in the past.

Outside the spheres of distressed industries, union settlements were largely unaffected by concession bargaining. For those workers who received wage increases, first-year adjustments under new settlements dropped earlier from 11 percent in 1981 to 4.6 percent in the first half of 1984. This slowdown can be explained largely by reduced inflationary pressures, which mitigated demands for catchup increases and moderated expectations of future inflation. Some of the largest settlements in 1983 and early 1984--calling for increases in excess of 6 percent during the first contract year--occurred in industries that came through the recession relatively unscathed, such as utilities and printing and publishing. As of mid-1984, price inflation had remained below 4 percent for two and a half years, a development that by itself could explain the virtual disappearance of first-year wage increases in excess of 8 percent. Apparently, apart from settlements in industries afflicted by sweeping changes in product market conditions, negotiations generally proceeded on a business-as-usual basis.

Evidence on spillovers to wages in the nonunion sector is inconclusive. Several time-series studies done prior to the recent spate of concessions

actually found evidence of spillovers from nonunion to union wages but none going in the opposite direction.[24] However, these studies were fraught with empirical difficulties, and their findings did not hold up when other data sources were used.[25] Moreover, there is evidence from cross-section studies and surveys of nonunion wage-setting practices that suggest spillovers run from union to nonunion wages.

A special case of union-to-nonunion spillovers can occur in industries or local labor markets that are predominently but not entirely unionized. In such markets, nonunion employers may pay the prevailing union scale in order to forestall the threat of union organization because they fear that organization will impose additional costs in the form of restrictive work rules, which inhibit flexibility in work assignments. Studies have identified a tendency toward so-called "threat" effects on nonunion wages across industries with high union coverage of their jurisdiction.[26] During the recent period of concession bargaining, nonunion employers who traditionally paid the union scale appeared to continue that pattern; these "concessions" at nonunion establishments in predominantly unionized industries were not nearly as numerous, of course, as the union concessions.

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24. George E. Johnson, "The Determination of Wages in the Union and Nonunion Sectors," British Journal of Industrial Relations, vol. 15 (July 1977), pp. 211-25; and Robert Flanagan, "Wage Interdependence in Unionized Labor Markets," Brookings Papers on Economic Activity, 1976:3, pp. 653-73.

25. Susan Vroman, "Union/Nonunion Spillovers," and Daniel J.B. Mitchell, "Union/Nonunion Spillovers: A Note," British Journal of Industrial Relations, vol. 18 (November 1980), pp. 369-76; Daniel J.B. Mitchell, "How to Find Wage Spillovers (Where None Exist)," Industrial Relations, vol. 21, no. 3 (Fall 1982), pp. 392-97.

26. Robert S. Gay, "The Impact of Unions on Relative Wages: Evidence on Effects Within Industries and Threat Effects," unpublished Ph.D. dissertation, University of Wisconsin, 1975.

The use of salary surveys is perhaps a more important institutional vehicle by which union wages can influence nonunion wages. A poll of personnel executives at relatively large firms, conducted by the Bureau of National Affairs (BNA) in 1979-80, found that the vast majority (80 percent) of firms surveyed used surveys of wages external to the employer and found their results "very helpful" in making wage decisions. To the extent that union wages are included in the surveys, some spillover to nonunion wages is likely. Nonetheless, the overall impact of concessions on survey results is probably small because the number of workers directly involved in concessions is a relatively small fraction of the total workforce.

Extreme notions of significant spillovers from union wages to wages in unrelated, nonunionized industries are not well-founded. As discussed earlier, wage differentials between industries widened dramatically during the 1970s with workers in many heavily unionized industries enjoying substantially larger wage gains than other workers. If strong spillovers to nonunion wages existed, this persistent widening of the interindustry wage structure over more than a decade could not have occurred. There is no reason to suspect that wages in nonunionized industries will respond to any greater degree to recent concessions than they did to large union gains during the 1970s.

A crude calculation of the impact of recent concessions on aggregate wage inflation might be as follows. Roughly 3 million union workers were directly covered by concessions. Spillovers to nonunion workers might double the number of workers affected to 6 million, or about 7 percent of nonfarm payroll employment in 1983. If it is assumed that these workers received no

wage increases[27] while others received an average 5 percent, the average wage change would drop to 4.6 percent. In other words, recent concessions may have held down overall wage inflation since 1982 at least one-half percentage point. This estimate represents about half of the recent prediction errors from standard wage equations and probably understates the impact on aggregate wage inflation because the definition of concessions used here is quite narrow.

Near-term prospects for union wage inflation

There are good reasons to believe that union wage inflation on balance will remain quite moderate well into 1985 even though overall economic conditions have improved dramatically. First, apart from the auto agreements, many multiyear contracts containing concessions will not expire until 1985 or even 1986. Second, outside of concession situations, the size of deferred adjustments has declined sharply as consistently moderate price increases in recent years lowered workers' expectations of future inflation. Third, despite smaller nominal adjustments, union workers who did not grant wage concessions still enjoyed substantial real wage gains on balance, and catchup wage demands should not be an issue when their current contracts expire.

These considerations can be illustrated with data from the Bureau of Labor Statistics on major collective bargaining agreements. Because of the large number of workers who have signed multiyear contracts without any guaranteed wage increases, only 3.4 million of the 7.9 million workers covered

27. This assumption may be fairly realistic. The most common concession was a freeze on base wage rates while COLAs were continued. Low inflation kept COLAs quite moderate. Wage cuts occurred less frequently but often were quite steep. Thus, the average wage change under all concessionary contracts might be close to zero.

by major union agreements actually will receive deferred increases in 1984. This figure is just slightly higher than the 3 million receiving deferred increases in 1983, which was a record low both in absolute terms and as a proportion of the total sample since the data series began in 1967. Meanwhile, the average size of deferred increases for those workers who are scheduled to receive them in 1984 will decline to 4.2 percent--the lowest increase since this information was first compiled in 1970. Taken together, these data indicate that deferred adjustments under prior settlements will contribute less to overall union wage change in 1984 than they did in 1983. The continued moderation of new settlements recently clearly points toward another year of relatively small deferred adjustments in 1985.

Given the considerable inertia from past concessions, any significant acceleration in union wages in the near term would require much larger new settlements or COLAs than we have seen lately. Such developments appear unlikely in the latter half of 1984. Expiring contracts in railroads and bituminous coal mining, for example, were in hindsight very generous (table 11), thereby rendering catchup increases unnecessary. Indeed, among key settlements still to be negotiated this year only auto workers experienced a decline in real wages, and that decline was quite small because their COLA clause provides almost full protection against rising prices.[28] With real wages generally rising and inflation low, it was not surprising that new settlements in excess of 6 percent practically disappeared in the first half of 1984.

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28. For all workers covered by major agreements expiring in 1984, wage rates increased at least 5.5 percent annually on average during a period when consumer prices were rising 4 percent or less.

Table 11

WAGE CHANGES UNDER SELECTED UNION CONTRACTS EXPIRING IN 1984 AND 1985

Industry	Expiration date	Number of workers	Wage change over contract life[a] (in percent)	Real wage gain (loss):[b] Contract life (in percent)	Real wage gain (loss):[b] Annual rate (in percent)
Railroads	June 30, 1984	350,000	24	7-1/2	2-1/4
Autos	September 14, 1984 (Ford & GM)	460,000	6-3/4	(2-1/4)	(3/4)
Coal mining	September 30, 1984	160,000	38	18-1/4	5-1/4
Trucking	March 31, 1985	300,000	3-3/4	(7-1/2)	(2-1/2)
Rubber	April 20, 1985	60,000	10	(2)	(1/2)
Electrical equipment	June/July 1985 (GE/Westinghouse)	100,000	20	7-1/2	2-1/2

a. All contracts run for three years except those in autos, which run two and a half years, and railroads and coal (39 months).

b. Real wage gains (losses) are measured relative to the CPI-W, based on actual data through June 1984 and a 4 percent increase over the remainder of 1984 and 5 percent in 1985.

Of course, by 1985 economic conditions that influence union wage settlements may be decidedly different. In industries that largely were untouched by concession bargaining during the early 1980s, it is reasonable to expect that new settlements will continue to respond to changing economic conditions in much the same way as they have in the past. Much greater uncertainty surrounds the likely outcome of future negotiations in industries that were granted concessions. If recent innovations in union contracts merely were a temporary response to prolonged economic adversity, then one might expect that traditional practices will be reinstituted, or even that concessions will be recouped, during an economic expansion. But another possibility is that union practices are undergoing a more lasting transformation in response to fundamental changes in unionized markets.

Longer Run Prospects for Collective Bargaining

Clearly, traditional union practices governing wage determination and other key outcomes of collective bargaining underwent sweeping changes during the early 1980s. What is the likelihood that recent trends will persist over the remainder of the decade? What are the implications for union wage behavior?

One trend that seems likely to persist is the gradual erosion of union influence. For nearly three decades, union organizing successes have failed to keep pace with the growth in the workforce so that the scope of union influence in the economy has shrunk. Union membership now probably represents less than one-fifth of the nonfarm workforce. Not only have unions failed to penetrate high growth areas such as electronics, business services, and other information-oriented industries, they also have lost ground in areas that once were bastions of union strength--meatpacking, rubber, coal, trucking,

and heavy construction. Prospects for substantial membership growth appear to be limited to health services and the public sector.

Indeed, many unions faced with new competition from domestic nonunion firms or foreign producers probably will focus their attention on efforts to preserve job opportunities for their current members rather than undertaking new organizing compaigns. The UAW, for example, is extremely concerned that domestic automakers will continue to shift production to foreign countries in the years ahead.[29] That prospect already has redirected the union's bargaining goals toward job security provisions to prevent further job losses. Similarly, deregulation has opened the doors for entry of nonunion firms and has led to the establishment of nonunion (so-called double-breasted) subsidiaries to circumvent union wage scales. Barring a concerted move toward reregulation, there is little chance that unions in airline transportation and over-the-road trucking will regain the jurisdictional control that they once enjoyed.

In a sense, the structural upheaval in unionized markets, which was hastened by the prolonged slump in demand during the early 1980s, has redirected attention toward the long run wage-employment tradeoff. This shift in focus was the inevitable result of the significant widening of union-nonunion wage differentials or, in the case of import-sensitive industries, the widening of labor cost disadvantages with foreign producers that took place during the 1970s. Union wage determination had been associated with stability in union wage-setting practices as long as trend productivity growth matched the annual improvement factor built into traditional wage formulas. But when

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29. In 1984, domestic auto companies will import about 200,000 cars and trucks produced by foreign subsidiaries or through joint ventures.

productivity gains slowed, the use of mechanistic formulas resulted in settlements that were at odds with market conditions facing individual firms or industries. After the longer term consequences became evident in the form of declining market shares, affected unions were forced to modify traditional wage formulas and to experiment with alternate approaches to wage administration.[30]

Apart from a few cases of deep wage cuts such as those in meatpacking, recent modifications to traditional wage formulas have not yet narrowed substantially labor cost disadvantages. In 1983, union wage inflation on balance averaged only about 1 percentage point less than the rise in nonunion wages. That compares with a widening of the overall union-nonunion wage differential of perhaps 10 percentage points during the 1970s (chart 6). Given remaining cost disadvantages and in the absence of government actions to raise protectionist barriers, which merely would post-pone market adjustments, the trend toward moderate union settlements seems likely to persist.

What features of traditional wage formulas might be altered to achieve wage moderation? Prime candidates for change are catchup increases and annual improvement factors. If the only change in union wage determination was that workers do not recoup recent concessions, then wage moderation would be transitory. Wage levels will be lower indefinitely, but future wage changes will be indistinguishable from past experience. In terms of the

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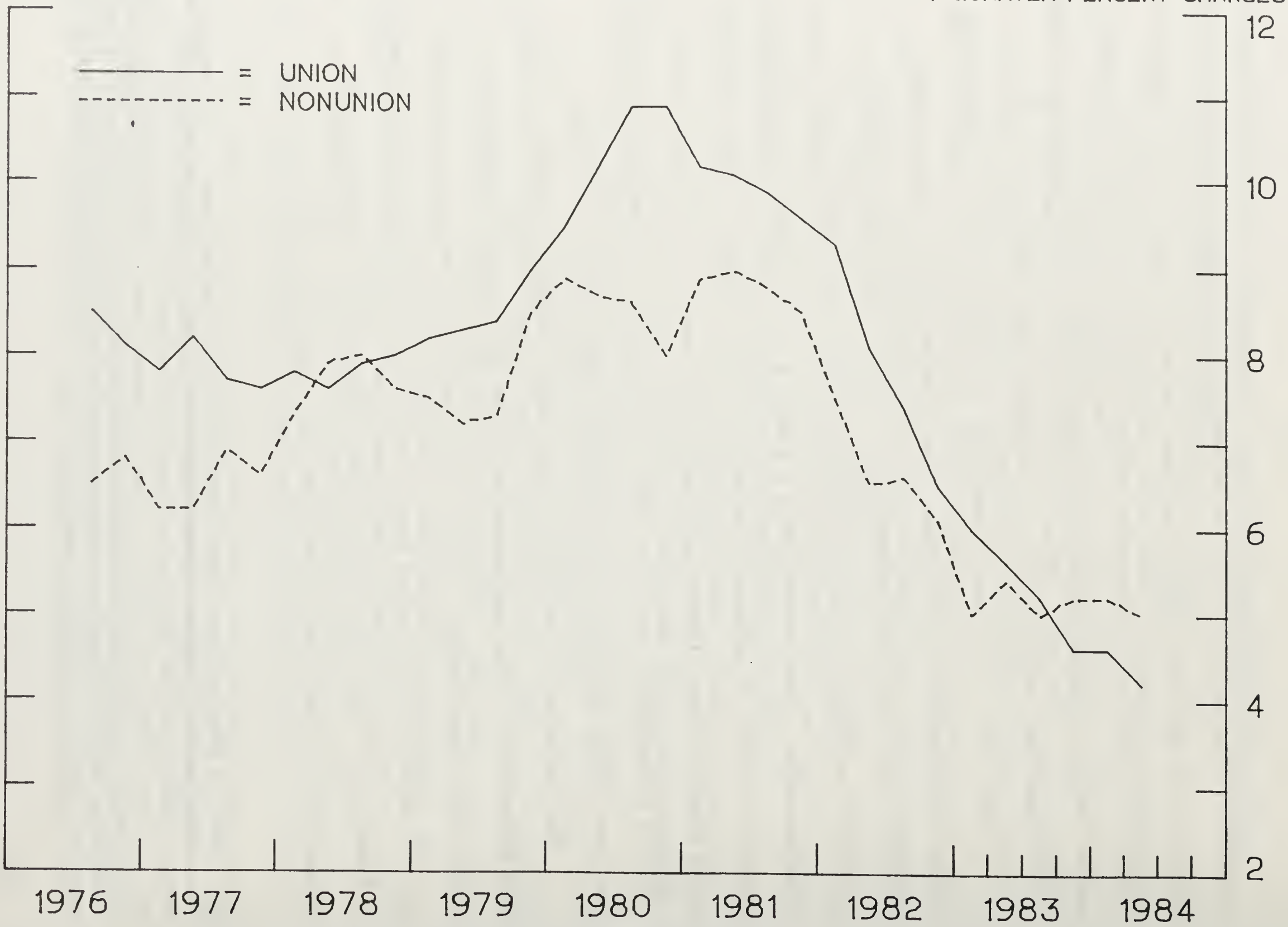
30. There is some evidence that product and labor market power were responsible for attracting imports; see Stephen A. Rhoades, "Wages, Concentration, and Import Penetration: An Analysis of Interrelationships," Atlantic Economic Journal, vol. 12 (July 1984), pp. 23-31. Increased import penetration also was associated with a greater likelihood for concession bargaining to occur; see Peter Cappelli, "Concession Bargaining and the National Economy," 35th Annual Proceedings of the Industrial Relations Research Association (IRRA, 1983), pp. 362-71.

Chart 6

WAGE CHANGES BY BARGAINING STATUS,

1976 - 84



SOURCE: EMPLOYMENT COST INDEX, BUREAU OF LABOR STATISTICS.

standard wage equation presented earlier, recent overpredictions gradually would disappear as expiring contracts with concessions are replaced by new agreements with traditional features other than first-year catchup increases. A more fundamental change would be the scaling back of the annual improvement factor. Such a change would reduce the size of the constant term in the union wage equation. The absence of this factor from so many contracts during the past several years suggests that workers no longer automatically expect real wage improvements of 3 percent annually and will accede to more modest goals in order to preserve jobs.

Efforts to curb costs will go beyond limiting fixed wage increases. Management can be expected to demand contract provisions that diminish the economic impact of published wage scales. These cost-saving provisions include two-tier wage systems under which new hires are paid less than incumbent employees for doing the same job; the exclusion of COLAs from the wage base to avoid the escalating effect on overtime and fringe benefits that often are tied to the wage base; and the elimination of costly work rules. Apart from their economic impact, these techniques have the added political advantage of arousing less opposition from the rank and file than across-the-board wage reductions.

A survey by the Bureau of National Affairs found that nearly 6 percent of the 1800 nonconstruction contracts reached between January 1984 and July 1984 specified some sort of dual pay plan. Moreover, negotiation of two-tier wage plans is on the rise particularly in the aerospace, airline, and retail food industries. The potential savings from lower pay for new hires will vary depending on the size of the wage differential, labor turnover rates,

and whether new hires remain at the lower pay scales permanently. High turnover at food stores, for example, could result in fairly immediate cost reductions under two-tier wage schemes. At the other extreme, turnover is quite low among aerospace workers, and any savings might not be realized for some time.[31] Moreover, some observers fear that two-tier schemes could have adverse effects on morale and productivity if they create animosity between new hires and incumbents. Perhaps for that reason, many of these plans are temporary or graduated systems that allow new employees to progress to top-tier or regular wage scales over a specified period of time.

The problem of curbing benefit costs is not confined to union employers. Rapidly rising medical costs have spurred a general interest in cost-saving measures such as employee-paid deductibles and so-called "cafeteria" plans under which employees are offered a choice of medical plans varying in cost and coverage while employers pay for a fixed dollar amount of their cost. The problem of rising benefit costs probably is most acute in the union sector because agreements covering medical costs typically are specified in terms of benefit levels rather than benefit costs. As benefit costs rose, they were absorbed automatically by the employer in addition to any negotiated improvement in benefit levels, a phenomenon known as "benefit creep." Competitive pressures probably will spur efforts to eliminate "benefit creep" including

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31. The main motivation behind the areospace plans, apart from reducing costs, was to widen wage differentials between skill classifications. During the inflationary 1970s, the operation of the COLA provision had narrowed skill differentials (in percentage terms) because the formula provided equal dollar adjustments to all workers. As a result, wage rates for low-skilled workers had gotten out of line with those offered by other industries, and the compression of wage scales had caused discontent among skilled workers.

limitations on benefit improvements or bargaining in terms of benefit costs. One novel innovation is the plan that the Aluminum Workers agreed to with Reynolds Metals and Alcoa. To encourage employees to spend less for health care, the companies will set up a $700 account on which workers can draw to pay for new, higher copayments. Money not used from the account may be taken in cash at the end of the year.

Perhaps a more far-reaching change may be found in union agreement to lift work rule restrictions that have grown up over the years. The evolution of contractual rules governing the performance of work might be viewed as labor's response to the scientific management principles of "Taylorism" that broke down jobs into their simplest functions to give employers maximum control over workers.[32] It also reflects the importation of much of the adversarial system of U.S. law into the workplace, such as many of the requirements of due process that are incorporated into grievance procedures.[33] Recently, however, there is a growing consensus that the ideas of scientific management and the strict requirements of due process are no longer appropriate for industries faced with rapid technological change. American methods of exercising job control clearly have been less accommodating to changing technology and to greater workforce freedom than the more flexible systems in Japan and Germany. In those countries, management effectively mitigates the need for

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32. See Michael J. Piore, "American Labor and the Industrial Crisis," Challenge, March-April 1982, pp. 5-11.

33. For a good discussion of the causes and consequences of contractual rule-making in U.S. collective bargaining, see D. Quinn Mills, "Reforming the U.S. System of Collective Bargaining," Monthly Labor Review, March 1983, pp. 18-22.

elaborate work rules to protect workers by permitting work representatives to participate in shop-floor decisions.

Two major types of work rule changes are being negotiated. First, there are changes that leave the existing organization of work intact but make it more efficient. Examples include reducing relief and wash-up periods, allowing management greater flexibility in scheduling work, and restricting the use of seniority in job assignment. Perhaps the most important changes in this category have been the combining of duties and the elimination of superfluous jobs, which permit a reduction in the number of separate job classifications. Generally, work rule changes of this type only give a one-time boost to the level of productivity. However, if recent changes signal an ongoing effort to cut back on rulemaking and to increase flexibility in the workplace, long run productivity growth also may improve.

More fundamental changes involve the revamping of the organization of work entirely. An example is the introduction of team work, such as the "pay for knowledge" concept that is being tried at nine General Motors plants. In these experimental plants, workers learn all of the jobs in one section rather than the usual practice of having workers perform narrow job functions. Management gains flexibility in assigning work and filling in for absent workers. Workers are paid according to the skills they acquire, which gives them an incentive to learn new skills.

Although experiments of this type have been less common than the changes in the first category, they may gain wider acceptance if competitive pressures from imports persist. Flexible teamwork systems are most likely to be adopted at companies where they interact with worker participation programs. Unions

apparently are willing to abandon rule-setting that restricts flexibility only if management is willing to let them play a greater role in decision making. Given the traditionally adversarial atmosphere of U.S. labor-management relations, the transition to a new cooperative framework for collective bargaining will take time. But if U.S. businesses are to meet successfully the challenge of foreign competitors, a long term commitment by both management and labor to enhancing productivity seems essential. The most promising ingredients to such a commitment appear to be a combination of shop-floor reforms, worker involvement, and less detailed work rule provisions.

To win union members' acceptance, management will need to offer quid pro quos for wage moderation and work rule changes. For one, the COLA clause often is viewed as an indispensable safety net that affords protection against a sharp drop in real earnings. Neither labor nor management appear eager to alter current contractual methods for dealing with future price uncertainty. During the recent period of concession bargaining, COLA payments sometimes were delayed or eliminated but rarely were the COLA provisions dropped entirely. Thus, there probably will be continued acceptance of COLA clauses where they currently exist.[34] To diminish the economic impact of these clauses, negotiators may modify formulas to reduce the passthrough of prices into wages or may

34. COLA coverage over the long term depends on a complex set of factors, the most important of which are expected inflation rates and the likelihood of unexpected inflation. See Ronald G. Ehrenberg, Leif Danziger, and Gee San, "Cost-of-Living Adjustment Clauses in Union Contracts: A Summary of Results," Journal of Labor Economics, vol. 1 (July 1983), pp. 215-45; Wallace E. Hendricks and Lawrence M. Kahn, "Cost-of-Living Clauses in Union Contracts: Determinants and Effects," Industrial and Labor Relations Review, vol. 36 (April 1983), pp. 447-60; and Jean-Michel Cousineau, Robert Lecroix, and Danielle Bilodeau, "The Determinants of Escalator Clauses in Collective Agreements," Review of Economics and Statistics, vol. 65 (May 1983), pp. 196-202.

agree to divert a portion of the proceeds to defray the costs of fringe benefits. On balance, however, multiyear agreements probably will remain highly sensitive to inflation.[35]

Other possible quid pro quos are gain-sharing arrangements and new job security provisions. Until recently, American unions have been reluctant to negotiate contract provisions that linked the compensation of their members to company performance such as profit sharing and employee stock ownership plans.[36] The paucity of gain-sharing arrangements undoubtedly reflected the preferences of senior union members, who dominate the union political process. Traditional contracts with guaranteed adjustments tended to insure against wage instability, but could not simultaneously insure against employment loss. As long as cyclical fluctuations were relatively moderate, the risk of layoff was borne by the least senior workers because contract provisions governing layoffs often are based on seniority. But during the early 1980s, plant closings and imminent bankruptcies caused union members faced with concession bargaining to view gain-sharing arrangements in a different light. Namely, they might mitigate income losses from wage moderation or reductions if economic conditions improved. To date, the recent spread of negotiated gain-sharing plans has been concentrated in industries that were subject to

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35. On theoretical grounds, it is often argued that the coefficient on lagged price changes in the wage equation should equal unity. That is, in the long run workers bargain in terms of their real wage. Empirical studies tend to show that price coefficients are closest to unity for multiyear escalated contracts but generally are less than unity for other workers.

36. In 1980, only one percent of major collective bargaining agreements in the private sector included provisions for profit-sharing plans. About two percent of major agreements had employee stock ownership plans, which allowed workers to purchase shares of company stock at attractive prices or distributed shares as part of compensation.

extreme product market pressures such as autos, farm machinery, steel, rubber, airlines, and meatpacking. Most of the plans are in the form of profit sharing with the proceeds distributed in cash.

Of all the contract modifications negotiated in the past few years, profit-sharing plans most clearly have the potential for making union wages more responsive to economic conditions.[37] Whether these plans will have a major influence on the cyclical behavior of union wages depends on 1) the proportion of the union workforce covered by profit sharing; 2) the size of bonuses as a share of total compensation; and 3) the extent to which bonuses replace other features or union settlements such as guaranteed wage increases and COLAs, which contributed to wage inertia in the past.

Although the number of plans indexing compensation for union workers to company performance has increased sharply since 1980, overall coverge under these plans is still fairly low. Flanagan estimates that about 8 to 10 percent of workers in large bargaining units were covered by profit-sharing plans as of late 1983.[38] The proportion of production workers involved in such plans was highest in autos (about 75 percent) and farm equipment (25 percent); in other industries coverage was much lower. Moreover, unions have not yet shown any tendency to establish patterns for profit-sharing plans. The

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37. For a discussion of the macroeconomic properties of indexing compensation to measures of company performance, see Martin L. Weitzman, "Some Macroeconomic Implications of Alternative Compensation Systems," Economic Journal, vol. 93 (December 1983), pp. 763-83.

38. Robert J. Flanagan, "Wage Concessions and Long-Term Union Wage Flexibility," Brookings Papers on Economic Activity, 1984:1, pp. 205-206. In comparison, about 20 percent of the total private nonfarm workforce is covered by some form of profit-sharing plan, according to estimates from the Profit Sharing Research Foundation.

United Autoworkers, for example, accepted plans in the auto industry, but chose to negotiate guaranteed lump-sum payments at aerospace firms; the United Steelworkers agreed to gain-sharing plans with smaller steel companies, but not in the master steel contract. Formulas for both funding the profit-sharing pools and distributing the proceeds appear to be tailored to the particular circumstances of individual firms.

In addition, the size of bonuses under existing plans have yet to become a substantial proportion of total compensation.[39] For example, bonuses paid to workers at General Motors and Ford this spring, which were based on very strong profits recorded by both companies in 1983, averaged about 2 to 3 percent of annual wages. In comparison, the average company contribution under all profit-sharing plans in the private sector is around 9 to 10 percent of total wages paid. Unless more unionized industries adopt profit-sharing plans and unions continue to accept bonuses in lieu of guaranteed wage increases, the impact of such plans on the cyclical behavior of aggregate union wages may be limited.

The main uncertainty about the prospects for profit sharing in the union sector centers around the practical problem of getting workers to accept such arrangements in cyclically sensitive industries. When only a minority of the workforce is involved in profit sharing, then that segment risks potential reductions in earnings without the prospect that the overall price

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39. Most negotiated plans specify a threshold profit rate that must be reached before any bonuses are paid but do not set an upper limit on the size of the profit-sharing pool. Over time, the profit rate (before bonuses) is determined by the relationship between prices and unit costs other than bonuses. By restraining labor costs, negotiators could increase the share of total pay received as bonuses, other things equal.

level will decline very much (assuming that other wages exhibit the usual cyclical inertia). The risk is greatest in cyclically sensitive industries. Thus, it is not surprising that until recently profit-sharing plans in the U.S. generally have been adopted at prosperous firms in relatively noncyclical industries.[40] Now that product market pressures and technological change pose a long-term threat to job security in many unionized industries, however, union members may find profit-sharing a more attractive option than in the past, especially if it is combined with other provisions such as lifetime employment guarantees.

Although unions may continue to experiment with alternate forms of wage administration, there is no evidence of a permanent move toward shorter contracts. Indeed, a recent survey found that management would strongly oppose any legal restrictions on the duration of collective bargaining agreements.[41] The disadvantages of short-term contracts cited by management include an increase in the time and money spent on negotiations, an increase in the incidence of strikes, and adverse consequences on employee morale and productivity. Some of these objections may not be warranted, but it is clear

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40. A commonly held misconception is that U.S. employers traditionally have resisted profit-sharing plans, except during periods of economic distress. In fact, there was steady growth in profit sharing since the early 1960s except during the 1974-75 recession and its immediate aftermath, according to figures compiled by the Profit Sharing Research Foundation. What is true is that the union sector, which includes numerous cyclical industries, did not contribute to any of the secular growth until the early 1980s.

41. The survey asked employers to consider the impact on their bargaining of a hypothetical law banning union contracts longer than one year in duration. Sanford M. Jacoby and Daniel J.B. Mitchell, "Employer Preferences for Long-Term Union Contracts," Journal of Labor Research, George Mason University, Summer 1984.

that U.S. employers still feel that multiyear contracts are extremely important to maintaining stability in labor-management relations.

Nevertheless, the wage-leadership role of key multiyear contracts probably will continue to wane because of sharply different economic circumstances across industries. For example, the strong recovery experienced by the auto industry during the past year and a half contrasts with an exceptionally weak one in the steel industry, which suggests that any past tendency of auto settlements to set the benchmark for steel negotiations will not reappear during the 1984-86 bargaining round. In addition, the recent trend toward decentralization of bargaining structures within industries probably will persist, reflecting the different economic circumstances facing individual firms. In the near term, breakaways from existing multiemployer bargaining units may be particularly evident in coal mining and trucking. New candidates for fragmentation of bargaining structures include telecommunications and railroads, both of which are still adapting to a deregulated market environment.

In summary, the recent wave of unprecedented contract reopenings and concessions do not signal the demise of long-term, escalated agreements. However, intensified competition in product markets--mainly due to deregulation of the transportation and telecommunications industries and from foreign producers--should continue to put pressure on union wage premiums in affected industries. The most notable breaks with past practices that are likely to persist are a tempering of traditional annual improvement factors toward a more moderate goal, increased attention to work rule changes to reduce labor costs, and continued emphasis on cooperative efforts between labor and management on shop-floor issues. Unions also may be willing to experiment further with

two-tier wage structures, profit-sharing plans, and lump-sum payments in lieu of wage rate increases; in return, they can be expected to seek improved job security provisions. These modifications may have only a limited impact on aggregate union wage flexibility in response to changes in demand over the business cycle. But, taken together, they would imply a sustained moderation in the rise of union labor costs in the years ahead and some reversal of the substantial widening in union-nonunion wage differentials that took place during the 1970s.

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